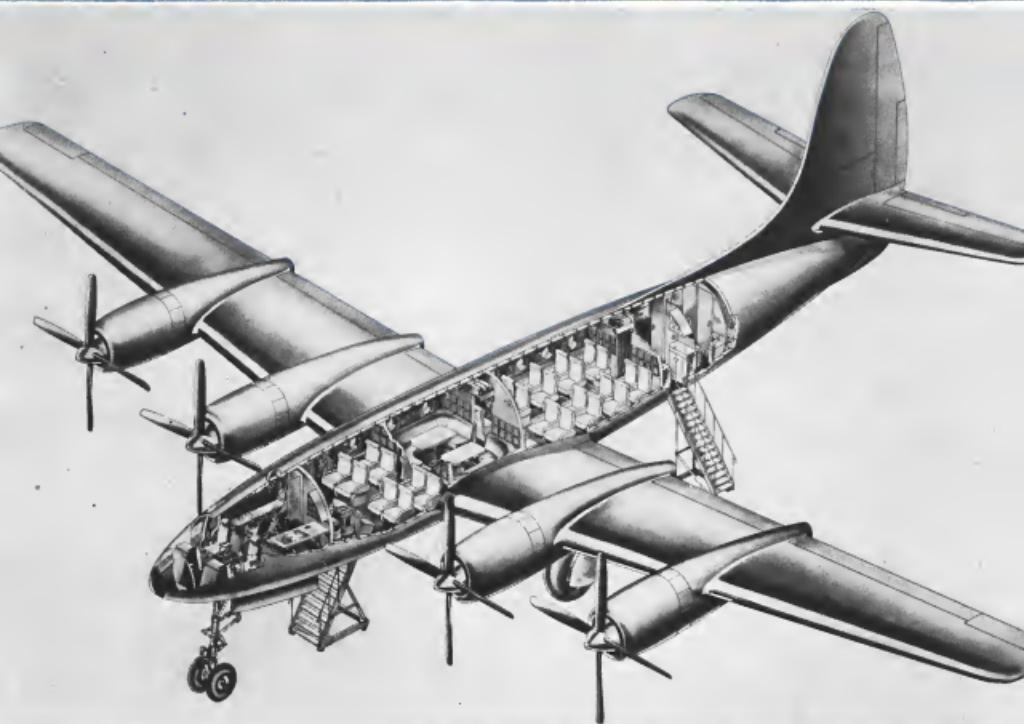


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

SEPT. 3, 1945



Republic's Bid for Transport Market: The Rainbow, 40 passenger plane proposed by Republic Aviation Corp., has speed above 400 mph, and pressurized cabin for high altitude flights. It is powered by four Pratt and Whitney Major 3,000 hp. engines and booster using exhaust to provide jet assist which adds 200 hp. to each engine. (Story on Page 16.)

West Coast Air Plant Planning Trends Are Listed

First year employment seen climbing to 100,000; preliminary designs for jet transports being "polished" for airlines.....

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North Pacific Route Is Recommended For NWA

Report would give Pan Am other share of trans-Pacific air travel by extension of its existing routes.....

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Haphazard Operations Stifle Progress, Says Geisse

Poor service to customers seen behind rising public opposition toward small bases for private pilots.....

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Engine Industry Threat Seen In Surplus Problems

Estimate of about 100,000 new powerplants headed for war fronts at time of peace announcement creates disposal problem.....

Page 9

Leased War Plane Factories Assume Vital Peace Role

Vastly expanded aircraft manufacturing structure seen making government-owned facilities essential for most firms.....

Page 32

See Radical Fuel Shift For High-Altitude Transports

High boiling point "safety fuel" and fuel injection to make proposed upper-air flights called economically sound.....

Page 47

Better Control

OF HYDRAULIC POWER BRAKING



VICKERS AIRCRAFT POWER BRAKE VALVES

These valves have true "hydraulic feel" . . . the resistance to brake pedal movement is hydraulic and directly proportional to the pressure in the brake. In the event of pressure or brake failure, the pedal is depressed without appreciable force thus giving the pilot instant warning of pressure loss. The time interval between pedal movement and brake application (or release) is minimized thus giving the immediate brake action which eliminates the tendency to overbrake.

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THE AVIATION NEWS

Washington Observer



ANNAPOULIS AIR—There is a definite indication of Navy thinking in the viewpoint of the new super-inintendent at Annapolis, Vice-Admiral Andrew W. Fitch. The admiral is well-known in aviation circles and his remarks may have joined the deep-sea admirals, but they come as a refreshing breeze to the aircraft industry when he said that after this year every man who is graduated from the Naval Academy either is going to become an aviator or is going to have a lot of knowledge of, and a great respect for, air power.

SPECIAL TOOLS—Approaching the vital tool situation from another angle, the Sergio Property Board, in a move to minimize unemployment caused by the closing of war plants for reconversion, has amended its regulations to permit the rapid sale or lease of special tools—a move which should be of special benefit to the aircraft industry. The amendment permits to these tools located in contractors' plants and the order extends this to government-owned plants in the aircraft industry.

EXPERIMENTAL MODELS—All restrictions on the utilization of manpower for the development of experimental models have been relaxed, an action which the aircraft industry can put to good advantage. Before a regulation prohibited the diversion of manpower engaged in war work to research on experimental models.

ENEMY TECHNICAL REPORTS—Some 11 reports on enemy technical developments are being cleared by the War Department, but thus far none have been on aviation. Those the department has on aviation, they are still keeping on the secret list and the carefully screened reports which will be released

to the public won't be ready for about six weeks. Army secret lists, note that the war is over, are closing some "closed eyeballs" in Washington.

CAP AND APL—Speculation on the future of the Civil Air Patrol is taking a new tack. One of the last experts left when CAP will effect a working arrangement at some future date with the Air Power League. It is said CAP will establish a personnel office at Columbus, Ohio, to which will be transferred all lines of members and recruits. APL later would take over that office and use the lists. Persons aware of this proposed plan are questioning the legal aspects of such a plan—which is government property—being made available to a private organization.

SECRETS REALLY SECRET—Almost unnoticed in the flurry of comment regarding the end of Code-Name is that it officially heralds the end of the wartime alliance of the U. S. with other nations. This means, also, as end to a free exchange of military data. It is not being publicized, but this country already has stopped revealing joint military technology development, including aviation projects to its wartime allies. This policy can also be deduced in the keeping of all strategic bomb details in this country.

OVERTIME HALT—Aircraft contractors of the Army and Navy are being notified that the two agencies will not authorize payment of overtime on cost plus aircraft contracts after Sept. 1. This factor will tend to make more difficult the problem of an aircraft company in retaining personnel. Several aircraft plants have never to the 16th week well in advance of the Sept. 1 deadline. Among the first companies to do this were Douglas at El Segundo and Grumman at Bethpage.



Japanese surrender plane marked with green crosses as ordered by General MacArthur.



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AVIATION NEWS • September 3, 1945

VOLUME 4 • NUMBER 6

Aviation News
 McGRAW-HILL PUBLISHING CO., INC.

Sept. 3, 1945

'Coast' Air Plant Planning Trends Listed; Jobs Ready

First year employment seen climbing to 160,000; preliminary designs for jet transports being "polished" for airlines; explosion of personal plane market hinges on Lockheed; other-than-aircraft production slight.

By SCHOLER BANGS

Here are the post-war trends of the West Coast's aircraft industry, as represented by seven major manufacturers:

► Preliminary designs for high-speed, high-altitude, long-range jet transports are being polished and shown to airline engineers as models which reasonably can be in production within another five years.

► Immediate production of already-announced commercial transport types will enable factories to establish within the first VJ year production organizations employing a total of between 70,000 and 100,000 workers.

► Unless Lockheed, already testing an experimental prototype, breaks the ice, the major companies will leave no smaller concerns exploration of the personal airplane market. They will want a public reaction to personal plane ownership, more realistic than questionable surveys, before planning.

► Consolidated Vultee Aircraft Corporation at San Diego may be expected to go heavily into cargo aircraft designing and manufacture in the belief that demands for freighters will exceed, sooner than many may believe, the market for transports designed primarily for passenger service. Convair's Skymaster Division should be ready soon to announce at least one new personal aircraft model to follow its current lightplane design.

► North American Aviation, which at present has no intention of abandoning its existing home factory at Los Angeles Airport, may be expected to enter commercial manufacturing. Company officials up to now have denied any intent

of post-war production of other than military aircraft. Top engineers are believed to have begun an intensive analysis of several logical commercial designs. Do not look for this company to share the slightest interest in transports as they fly today. If it does enter commercial production the emphasis will be on jet and high speeds.

► Douglas Aircraft Co. most certainly will keep busy getting its DC-4, DC-8 and DC-7 models into production, and in emphasizing its position as a logical builder of military cargo and personnel transports. With these planes the company will seek to extend, in a

Surplus Total

A total of \$3,743,300 in items peculiar to aircraft have been disposed of in the European and Mediterranean theaters of operations.

Army-Navy Liquidation officials said that most of this equipment is for non-combat type aircraft and that approximately \$1,500,000 is in store for Pratt & Whitney engines.

► Navy Part—A small quantity of naval items are included in the total, mainly accessories, propellers, wheels, electrical carburetors, aircraft hardware and special tools and equipment.

While more competitive aircraft, the post-war position it gained with the DC-3, Douglas will test experimentally jet engine installations in its planes, but will depend upon gradual refinements to keep its standardized models selling. The company also will less heavily upon the business-getting offer to airlines, the company's No. 1 present-time customer, of customer



RESONANCE JET:

Co-designer A. J. Klose, left, holds the model of the resonance jet engine developed by himself and W. B. Goodman, right. Center is G. M. Guenard, head of the engineering firm experimenting with the resonance model that develops two pounds of thrust and has the roar of a 1,500-hp reciprocating engine.

VJ Engine Cutback List

Summary of telegraphed V-J Day cutbacks on Air Forces aircraft engine contracts. These are subject to change but no substantial revisions upward are expected at this time.

Engines Type	Manufacturer	Percent of Out
H-1200	Wright, Pratt	200
H-2000 RA & BH	Wright, Lockheed	100
H-3000	Wright, Lockheed	100
H-3350 200 DD	Lockheed	100
H-3400 C-84	Chrysler, Lockheed	100
H-3400 G-42	P & W, East Hartford	100
H-3500 G-92	Chrysler, Lockheed	100
H-3600 1 Stage	Wright, Lockheed	100
H-3600 1 Stage C	P & W, East Hartford	100
H-3600 2 Stage	Wright, Lockheed	100
H-3600 2 Stage C	P & W, East Hartford	100
H-3600 2 Stage G	Wright, Lockheed	100
H-3600 3 Stage	Wright, Lockheed	100
H-3600 3 Stage C	P & W, East Hartford	100
H-3600 3 Stage G	Wright, Lockheed	100
D-200	Alfredsen Engines, Syracuse	100
D-400	Alfredsen Engines, Syracuse	100
D-510	Lockheed	100
D-520	Lycoming, Wilkes-Barre	100
D-530	Lycoming, Wilkes-Barre	100
V-3400 2 Stage	Packard	100

Some Production Cutbacks	
H-3600 1 Stage	Wright
H-3600 2 Stage	Wright
H-3600 3 Stage	Wright
D-200	Alfredsen Engines, Syracuse
D-400	Alfredsen Engines, Syracuse
D-510	Lockheed
D-520	Lycoming, Wilkes-Barre
D-530	Lycoming, Wilkes-Barre
V-3400 2 Stage	Packard

service facilities which seem should become world-wide.

Northrop—Aircraft's post-war position is not easy to determine. Existing military production orders and experimental work will maintain a reasonably large production organization for many months. Rumors that the company may build personal aircraft have gained no confirmation from company officials. Under military restrictions, the company has been unable to discuss even the commercial possibilities of its big flying wing now nearing completion. The concern's future aircraft designs, both military and commercial, may be governed to a degree by the results of engine design experiments believed initiated by a Northrop alliance with Joshua Hendy engine works.

Lockheed Aircraft Corp.'s enthusiasm over straight jet propulsion, and even rocket power, may be taken as a sign of an interest, and secret, design program now under way in an experimental engineering office. From a production standpoint, the company currently has reasonably heavy orders for Constellations to meet. That will go immediately into personal plane manufacturing on any extensive scale if questionable. Fortified by modifications of its original *Starfire* specifications, it will compete strongly in the fledgling aircraft market.

Boeing Aircraft Co. in Seattle,

is competing with mounting anxiety for the prospective buying of fighter planes and medium transport parts, and may be expected to settle on production designs for a 10-passenger plane and one of 36-passenger capacity. The company's Wichita plant soon may begin manufacture of a personal plane of still-unannounced design and price. Analysis of large aircraft look upon Boeing's big Model 360 pressurized high-altitude transport as one almost certainly sure to bring impressive production orders. It is viewed as extremely well suited to operations up to 2,500 miles, and as such is ideal for such non-stop routes as the California-Hawaii run.

Ryan Aeronautical Corp., at San Diego is understood to be exploring the possibilities of lightplane production and also is studying design proposals for medium-weight transports. That West Coast airframe plants

AVIATION CALENDAR

- Oct. 4-6A—Southern California Section, Annual Meeting, Los Angeles
- Oct. 4-11—Midwest Section, Annual Meeting, Detroit
- Oct. 4-11—Northeast Section, Annual Meeting, Philadelphia, Philadelphia, Pa.
- Oct. 12—International Air Transport Association Annual Meeting, Montreal
- Oct. 12-14—Midwest Section, Annual Meeting, St. Louis, Missouri, Washington, D. C.
- Oct. 12-14—National Air Transport Meeting, St. Louis, Missouri, Washington, D. C.
- Oct. 12-14—National Air Transport Meeting, St. Louis, Missouri, Washington, D. C.
- Oct. 12-14—Southern California Section, Annual Meeting, Los Angeles
- Oct. 12-14—Western Section, Annual Meeting, Los Angeles

may try their hand at building things other than aircraft is possible. Every factory has made studies to this end. But it is certain that no announcements of intention will be made until contracts have been signed.

Bell—Beech-Convair dipped experimentally into the designing of a large highway bus, and withdrew.

One other manufacturer is known to have considered, but only briefly, the production of a small delivery truck to sell for under \$300.

Boeing is known to have an experimental list of dream projects, and has tested its engineers' designs who are convinced that they can fashion an articulated railway train of light metal construction which would revolutionize present conceptions of train design.

Some Business—In summing up, it may be assumed that with a possible few exceptions the western aircraft industry will adhere strictly to the business in which it has major experience.

Also, as aircraft designing will be reasonably conventional for a good many months to come.

It is true that the east's aircraft beds are anxious to state and at some length, what they intend to produce and in what quantity.

Waiting Game—For the past two weeks Lockheed has had such an announcement in readiness but has withheld its release. It must be assumed that other manufacturers likewise have similar announcements ready.

The companies want publicity on their plans, both to bolster employee morale and to launch campaigns to fix their commercial trade names, and products, in the public mind.

However, each seems to be waiting to see what the other fellow is going to do, and such sparring is not without historic qualification.

Fast Lesson—Boeing, it is recalled, announced in the mid-thirties, and a year before it was ready for extensive production, the design of its twin-engine Model 247 passenger transport Douglas, according to those who recall the situation, immediately shamed a commercial design it was planning to build and rushed in with its first DC design and subsequently captured an airline market which Boeing possibly could have held to itself by a delayed announcement of Model 247 specifications.

Engine Industry Threat Seen In Mounting Surplus Problems

Estimate of about 100,000 new powerplants headed for war fronts at time of peace announcement, plus post output, creates problem believed more complex than that of airframes.

By ELAINE STURRISHFIELD

No industry seems to be more seriously threatened by its war-built surplus than is the aircraft engine industry.

One off-hand but informed estimate is that about 100,000 new engines of all types were in the pipelines to war fronts when Japan quit.

Production Total—About 211,000 engines were produced for the Army, the Navy and for export in the four-year period ending with 1944. Production in 1945 probably will equal half of the 186,571 delivered in 1944.

How many of these engines were shipped to other countries, just, is unknown, still serviceable, and still

new cannot be determined, but a large number of them will be available for surplus in addition to those in pipelines.

Engines manufacturers are seriously concerned; their surplus is much larger numerically than that of airframe builders. Partly because of the extreme difficulty of the engine surplus problem, less planning has been accomplished on disposal of engines than of airframes.

FAIA Proposes—Last April the Aircraft Industries Association roughly outlined its proposals on surplus engines.

Don't repossess engines in a manner to kill the market; replace 25

percent of reserve each year with new production; in categories above 500-hp, release only new and unused engines, because inspection cannot detect fatigued parts that may cause failures.

Don't worry about small engines, demand will exceed the supply.

Proposed to the National Commission of War Emergency, committee of mapping engines and other metal war goods in the interest of a metal stockpile against declining resources. Further recommendations will be made by committee to be appointed soon.

But even this expression of policy by the industry itself leaves wide open the disposition of new and unused jet-cast engines in the high power classes. Concerning this surplus there are several possibilities.

Congress—One is that Congress could step into a problem of that magnitude and instruct the Army and Navy to withhold declarations to surplus, purely in the interest of sustaining the engine industry, which is vital to the country's



BURNELLI'S FLYING FUSELAGE:

Two views of Vincent Burnelli's unconventional plane now undergoing flight tests by Clyde Pendleton, veteran pilot, at the Canadian Car and Foundry Co.

plane. *Burnelli* Fuselage is 20 feet wide. Performance details are being withheld pending completion of tests.



economy and military defense. On Congress could tell the disposal agencies to store the surplus for reuse or for metals salvage scrap. In either case, of course, engines would actually need for present operation would be allocated.

Industry — Another possibility, for which the manufacturers are striving, is the rapid obsolescence of current designs. This could be brought about through improvements in design or power engines, or by unexpectedly early application of turbine and jet power plants. Anticipated slow development along these lines will not afford the necessary present relief.

Certification of military engines by the Civil Aeronautics Administration for civilian use is an important factor. Both CAA and the American Navy had 150 hour tests which are equally the same.

CAA can accept military engines as a basis for certification or approval of a few units. This can be done even though the manufacturer is opposed to it, but the manufacturer's attitude is a strong influence in the operator's decision whether to buy the engines.

► **Types Approved**—So far CAA

has certificated the R-2890 in the C-48, the R-2890 in the C-54, the R-1830-64 in the DC-3 types, including the C-47, and possibly one or two others. But these are essentially civilian engines. The certification of converted military engines would be too much of an undertaking for small purchases, and is not an advisable project for persons other than engine manufacturers.

Two Allison's have been approved on a Douglas transport, and apparently no other combat engine approvals are on record, if in the process of approving used military engines, the log books are confused, incomplete, or missing, the engine must be completely overhauled.

Despite the convertibility to civil use of combat engines, however, it is largely academic. In general the changes would be comprehended primarily in other areas, especially the engine stage control. Nevertheless, most engineers agree it can be done satisfactorily. But the point is that conversion is out of the picture because of the vast supply of non-combat types.

Canadian Warplane Disposal Speeded

Speedy disposal of Canadian warplane surplus is planned by agencies working in the demolition of surplus aircraft and an intensive research program, of turning out on short notice large numbers of the most advanced military and commercial types.

"The surplus aircraft industry, including the manufacturers not only aircraft, but of engines and accessories, has submitted a record for which all officers and men of Naval Aviation will always be grateful," said Admiral Ritter. "Every worker, whether of management or labor, played a vital part in winning the war."

The Admiral added that he was "safely" relieved from anyone who had been responsible for the success of the Grumman Wildcat, the Grumman Hellcat and Vought Corsair fighters, the Douglas Bostons, dive bombers, and Grumman Avenger torpedo bombers.

► **Aircraft carriers**, including new carriers of the Midway class, the 60,000-ton capable airfields from which two-engine aircraft can be flown, should be joining the census of the world at all times.

► **Four thousand**, three hundred, and twenty-four surplus aircrafts should be turned over to Canada to keep Naval Aviation a dominant factor in world peace insurance.

► **It is estimated** that at least 3,800 new planes should be added during the next year.

► **New aircraft**, including jet-propelled aircraft designed to operate from carriers have been developed. At least two new fighters and two radically new dive and torpedo bombers are under development. Most of these are nearly ready for action.

► **A strong aircraft industry** should

be kept in the C-48, the R-2890 in the C-54, the R-1830-64 in the DC-3 types, including the C-47, and possibly one or two others. But these are essentially civilian engines. The certification of converted military engines would be too much of an undertaking for small purchases, and is not an advisable project for persons other than engine manufacturers.

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Official Air Records Rebirth Looms As U. S. Export Factor

Federation Aeronautique Internationale, now reorganizing, called capable of framing specifications for record flights so that aircraft of one country would appear superior to those of another, despite actual advantages.

Efforts of U. S. aircraft manufacturers to broaden their export markets may be greatly influenced by the reorganization of the Federation Aeronautique Internationale, top executives of which shortly will meet in Europe.

FAI, which was founded in 1905, is the world governing body of sporting aviation. More significantly, it coordinates and gives an official cast to all aeronautical records, and its authority is recognized throughout the world. FAI discontinued its activities in 1939. When it reorganized, one of its first tasks will be to set new standards for records and specifications for aircraft when engaged in record attempts.

► **FAI's Reformation** — Conceivably, according to authorities on the subject, the specifications could be so framed that U. S. aircraft, on the basis of FAI records, would appear inferior to foreign planes in certain respects. For example, a U. S. transport with high speed, but short range and low payload could establish an FAI point-to-point record that would look better than that of a slightly slower U. S. transport that could carry a greater load at a lower operating cost.

Reorganizing that fact, it is expected the British will make a strong attempt at the forthcoming meeting to gain a dominant role in the formulation of the new standards for records.

Present president of FAI is Dr. Godfrey L. Cabot, of Boston, former president of the National Aviation Association, which is the U. S. representative of FAI. Dr. Cabot was first vice-president of FAI at the time of the last meeting, in January 1936, and succeeded to the top post upon the death of the president in 1941. He was expected to arrive in Europe by air last week.

► **Vacancies**—In the past, the incumbent president has appointed the International Sporting Aeronautical Commission, the FAI division dealing with records. Two officers of the last commission appointed — Paul Tumander, who

died this year, and Wolfgang von Grossen, a Luftwaffe general — definitely must be replaced. Fate of the chairman, a Monsieur Hirschberg, is not known.

According to past practice, Dr. Cabot would appoint the committee, which in case, presumably, the U. S. would be represented. But it is to be expected that part practice will be adhered to, or that Dr. Cabot will be reelected president. There is known to be opposition to him by the Royal Aero Club, the British branch of FAI.

While FAI is this country supervises record performances, and carries on other activity on behalf of FAI, it does not occupy a position strictly analogous to the aero clubs abroad. There, they are semi-official agencies and their

officers frequently follow a policy laid down by their government and commercial aviation interests.

► **Sale Lever**—Thus the attention given the FAI record set-up by the British who represent aircraft manufacturing industries. With the sale and the buying of aircraft in Europe often being a matter of government policy, FAI records could offer a convenient excuse for purchasing from a certain nation aircraft which showed up well in FAI records but which actually were not as efficient as planes of another nation.

Some U. S. manufacturers, while not being fully cognizant of FAI's activity, acknowledge that the official records held by an aircraft can be an asset in making that plane well-known abroad. One example is the MacRobertson Trophy Race from London to Melbourne in 1934, which was organized by the FAI. Although won by a British racing plane, greatest honors went to stock Boeing and Douglas transports which, carrying passengers, finished second and third respectively.

South American 'Tour' Set For Cargo Glider

A glider tour of Central and South America is being planned by Lester Kauffman, with a B-33 towing one of the company's Trojan Horse cargo gliders. Landing and pick-up exhibitions will be given in jungle clearings with the



225,444 Planes Built For War

A record breaking production of 225,444 aircraft was produced by industry in this country under the supervision of Aircraft Production Board during an extensive period from December, 1941, until the end of August. Of this amount 184,438 were tactical types.

From Paul Fischer until V-J Day industry produced a total of 175,361 aircraft, 100,000 of which 21,197 were built in 1944. L. E. Smith, chairman of WPS and APB, paid tribute to the aircraft industry and stated that the board had its full cooperation.

Final Party.—The last meeting of the APB was held Aug. 24, at which time Paul Fischer, former APB member for cleaning up operations. Winding up affairs also on September 28 is the executive agency of APB, Aircraft Resources Control Office, and the

losses. This is contrary to the statement issued by the National Association of Manufacturers that "the operating funds of industry may be up to 50 percent."

Industry and the other contracting provisions there is no reason why contractors in most cases cannot get liberal partial payments or guaranteed T-tolls within 30 days after application.

Aircraft Material Surplus Released

Production items exempted from inventory restrictions by WPS order encouraging flow to commercial users.

An action designed to encourage the flow of surplus aircraft production materials into the hands of manufacturers has been taken by the War Production Board which issued a new directive exempting surplus aircraft materials, both government and contract owned, from the inventory restrictions when they are released in the manufacture of civilian aircraft.

The new directive now permits aircraft, or aircraft subassembly contractors, to receive in pre-arranged sales from other aircraft or sub-assembly contractors or from government owning or disposal agencies, idle, excess or surplus materials without regard to the inventory regulation which heretofore has been applied.

Aircraft Scheduling Unit at Wright Field which was delegated powers by APB.

According to APB officials, scheduling, procurement, contract production and disposal powers will not be retained by the services. Army Air Forces and Navy Bureau of Aeronautics The Aeronautical Board will supervise all standardization between them.

And a final production report for August will probably come from the Army and Navy since outbreaks at the end of the war completely upset APB's schedules for the two services. Overall acceptances for August will be held at the earliest possible date as the industry now on cutback schedules and acceptances for the latter half of the month will be low bringing the total down.

Vast Slack.—The reduction of military aircraft programs has resulted, WPS officials pointed out, in large surpluses of aircraft quality materials and components far exceeding foreseeable commercial requirements for civilian aircraft.

In order that aircraft manufacturers may obtain as much as possible of these surpluses, the new directive provides that inventory restrictions on receipts do not apply, provided that all the following conditions are fulfilled:

► The materials must be received from aircraft or aircraft subassembly contractors or from government owning or disposal agencies. They must be received pursuant to a special sale under priorities regulations.

► The material must be acquired for use in the manufacture of civilian aircraft and components and not for resale or resale.

The new directive also provides that a person who receives materials or components under this directive may not thereafter receive further deliveries of the particular item from producers or distributors if it will his inventory of it is reduced to a practicable minimum working inventory or other applicable limitation and his orders may not call for delivery before that time.

RCAF Maintenance

A maintenance command of the Royal Canadian Air Force has been established at Ottawa with Air Vice-Marshal Ralph E. Mc-

Burcy in charge. The new command will be responsible for the procurement of all RCAF supplies, will supervise the inspection, distribution, installation and salvage of all such equipment and will be responsible for certain airports and buildings. One of the immediate tasks of the command is that of disposal of all RCAF surplus equipment not needed for the reorganization of the RCAF on a peacetime basis.

And a final production report for August will probably come from the Army and Navy since outbreaks at the end of the war completely upset APB's schedules for the two services. Overall acceptances for August will be held at the earliest possible date as the industry now on cutback schedules and acceptances for the latter half of the month will be low bringing the total down.

Delta links the Southeast to Chicago



to start at an early date

Delta Air Lines has been authorized by the Civil Aeronautics Board to operate two new routes from Chicago to the Southeast—one terminating at Charleston and the other in Miami. This adds approximately 4,000 miles to existing Delta routes—provides service to ten new cities with a total population in excess of 4,000,000.

The Air Trade Roam of the South, developed by Delta over the past 10 years, has thus rounded out less extensive Memphis coverage—and Chicago becomes the first of a series of key terminals outside the

South to be reached through Delta's expansion program.

The New South, the industrial and aerospace South, needs additional service to the nation's business centers. Detroit, Cleveland, Kansas City, Wichita and New York are other natural destinations for Delta's developed traffic.

Since flying as first passenger in 1939, Delta has built a Southern air communication system with an unparalleled record of operation. Both North and South will benefit from each new southern center Delta serves.

The Air Line of the South



Grand Open:

ATLANTA, GEORGIA



The Rainbow: Flight view of model discloses clean lines. Note jet trails from exhaust boosters.

T P Wright had previously announced that two regional officials have been formally charged with malfeasance, two others, later revealed as Smith and Harwood, have been asked to resign, and three have been transferred to other posts.

Others, under investigation involved in improper issuance of aviator's certificates, discrimination in enforcement, irregular conduct in grading examinations, and accepting gifts.

Two Air Firms List Personnel Changes

Healy leaves Aerojet, joins Mead Committee advisory staff; Morris to aid Bausch Helicopter head.

Andrew G. Healy, founder and president of the Aerjet Engineering Corp., has resigned as president and director to resume practice of law in Washington, D. C.

Immediately following his resignation, Healy was appointed adviser on aircraft to the subcommittee on aviation and space materials of the special Senate committee to investigate the national defense program, the Mead Committee, formerly the Transit Committee.

In company with a group of distinguished scientists including Dr. Theodore von Karman, Dr. Fritz

increased depending upon the circumstances.

On surplus aircraft, the spokesman said all surplus aircraft not needed by occupation forces in Europe has been returned to the United States for training purposes. Nonflyable craft are being scrapped in Europe.

Republic Enters Transport Field

Annonces plans for Rainbow, 60 passenger, 400 plus mph, high altitude four-engine plane.

A new contender for top spot in the transport plane field was announced today by Republic Aviation Corp., Belfair, an exclusively military producer, with the revelation of the well-guarded details of its Rainbow, a 60 passenger, high speed, high altitude transport. With a speed officially set at better than 400 mph at 40,000 feet, Republic executives say they believe the Rainbow to be the fastest transport plane yet engineered.

It is powered by four Pratt & Whitney R-4360 engines of 2,100 hp each. A feature that contributes much to its high speed is the use of a booster on the exhaust exhaust to create a jet assist. This is said to add 200 hp, to each engine. The bullet-shaped fuselage is particularly clean and the tail assembly is dominated by a tall stabilizer. Tricycle landing gear is planned.

The interior of the Rainbow provides 30 conventional seats, two on each side of the aisle, and a cocktail lounge over the wing section seating another eight. The cabin is pressurized for high altitude flights.

In its announcement, Republic cites the plane's ability to make scheduled trips from New York to London in 8 hours; New York to Mexico City in five hours; New York to San Francisco in six hours; San Francisco to Honolulu in seven-and-a-half hours.

In addition to 40 passengers the plane will carry a crew of seven, 1,600 pounds of baggage, and 1,700 pounds of cargo.

Negotiations for commercial orders have been in the discussion stage for some time and further developments are expected within a few weeks. It is believed that one of the most interested lines is one of those recently certified to fly the North Atlantic.

Stars in the sky.... the Superfortress



a great airplane that flies first on Chevron Aviation Gasoline

A RAIN OF TERROR falls upon the tiny island of Hiloiki as Superfortress bombs Tint. Forty 200-lb. bombs can be carried by a single B-52, in addition to enough fuel to fly a round-trip test run. The fuel tank of B-52's body on the West Coast is filled first with Chevron Aviation Gasoline. Boeing Aircraft Company has used Standard Aviation fuels since 1933.



GREENHOUSE NOSE affords aviation vision. In bombardier, pilot, or plane. Pilot's job is heightened by flight engineer, who handles main equipment panel. Extra power and range of Chevron Aviation Gasoline makes his job easier, too.



ON LONG MISSIONS Superfortress can "hit the rock" on these bases. Blank slate opens up opportunities of operations of high flying B-52s. Development of long range rapid fuels like Chevron Aviation Gasoline have vastly extended ceiling of warplanes.



BATTLESHIP FIRE CONTROL of B-52 passes angle gunner to concentrate fire of main gun. Superfortress can carry 4000 lbs. of bombs, 1000 lbs. of incendiary bombs, plus 200 lbs. of incendiary tail marker. For the dependable power required in test flying and delivering these 60 ton sky giants, Boeing's West Coast plant selects Chevron Aviation Gasoline. Chevron is the choice of many other West Coast plane plants and airlines, too.



ADAPTER to the requirements of light aircraft, Chevron Aviation Gasoline gives power, performance, and economy of flight. Gasoline, kerosene, or paraffin, in any blend, may be depended on. Try Chevron Aviation Gasoline—it will make your plane, too, a star in the sky.



PRIVATE FLYING

Haphazard Airport Operations Stifle Progress, Says Geisse

Poor service to customers seen behind rising public opposition toward small bases for private pilots; CAA expert blames lack of owner "pride" in growing development cheat.

By ALEXANDER MCSURELY

Public opposition toward small airports for private flyers, which is being observed in many parts of the country as a growing sole effect a new and serious obstacle to the full potential of expanding post-war personal aviation.

John H. Geisse, assistant to the CAA Administrator, told personnel last week that the development of new airports is facing strong opposition in many localities from residents of homes near the airports, in most cases, non-flyers.

"There are objections to the neighborhood that has become associated in the public mind with airports," Geisse said. "In the majority of cases this has been due not to lack of capital but to lack of pride in appearance on the part of the operators or just sheer laziness."

"Although most of these operators are thoroughly qualified and they have earned the right to share in the expected increase in business by having lived with aviation when the packings were still, aviation cannot afford to permit them to continue in the manner in which they have become accustomed."

Geisse cited as another principal objection of the non-flying public

to nearby airports, the low-flying aircraft.

Public Irritiat — Geisse warned that low-flying pilots are building more public prejudice against airports. "When our greatest need is more airports, and airports closer to people's homes, it is downright foxy for us not to do everything in our power to reduce to a minimum the intrusion, the inconvenience or disturbance to people on the ground."

"Their complaints reach the ears of others who have it in their power to keep airports out of their communities and thus they are doing in no small numbers."

The CAA personnel flying assistant pointed out that the facts that manufacturers may eventually produce quiet aircraft, and that recent tests show airplanes flying overhead create less intensity of noise than trucks passing in the street, do not excuse existing low-flying practices which agitate the noise practice to those below.

Patent Change — He recommended that operators study revision of local traffic patterns and eliminate practice flying in areas where it may be disturbing.

The fact that the American public with the relaxation of wartime restrictions is beginning to

demand vastly improved service from every type of service industry, is another factor facing the airport operator.

With a few notable exceptions, the small airport has never given the private flyer the type of service or facilities he could get by spending the same amount of money in almost any other service industry.

Pre-war "Fast" — In pre-war years, it is a well-recognized fact that the small airports offered, generally speaking, a minimum of illegal facilities, and too many operators were inclined to tolerate the flyer rather than to encourage his patronage by courteous service.

The difference between a well-operated and poorly-operated airport, it is pointed out, need not be measured necessarily in terms of money invested.

Universal — The smallest operator, as has been proven, can offer cleanliness, bright paint, sanitary restrooms, close-up turf field, absence of fire hazards, and prompt, courteous, satisfactory of the customer's wants.

How well this type of airport management has paid off, in the few cases where it has been given a fair trial, may be observed by examining the operations and service provided by most of the leading operators.

The best have built up their business because of superior service and facilities. But, even some of these have lost ground in recent years.

Two-Place Ensign In Test Flight

Scheduled for test flight at Long Beach (Calif.) Airport yesterday was the West Coast's newest addition to a steadily-growing catalog of planes for the personal aircraft market.

This is the two-passenger low-wing Ensign, plastic canopied and expected to retail for \$1,800.

Its manufacturer is All American Aircraft, Inc. of Long Beach, wartime producer of aircraft parts headed by Gerald Adler, president.

Top Speed — Design specifications call for a top speed of 125 mph., 100 mph cruising speed, 50 mph landing, and sea level climb of 185 feet per second power delivered by an 85 hp Continental engine.

All-metal construction is used in the Ensign.

266 Extra Ideas

RYAN'S Production and Engineering Staffs include many outstanding names of the aviation industry. But no one man... nor one group... has a monopoly on ideas. That's why the Ryan Aeroneautical Company sponsors Shop Suggestion and Patent Development Plans, which offer valuable incentives to all employees... for turning in suggestions for improvements. Often, these suggestions turn out to be the sort which occur only to workers in their on-the-job, everyday experience. To date, Ryan employees have submitted 1065 ideas from which have been obtained 266 valuable contributions to aircraft production. 266 reasons why Ryan production methods mean constantly improved military planes today... safer, lower cost air transportation tomorrow.



NEW TOOL SAVES MAN-HOURS

When the final series of metal skin panels are applied to the fuselage of the Ensign, the final step is to cover the entire aircraft with a thin, flexible, clear plastic film. This is a slow, time-consuming task, and the process is often marred by wrinkles. The new tool, shown in the illustration, eliminates this difficulty.

—Shop Suggestion No. 433



NEW BRAKE RING ELIMINATES BREAKAWAY

During landing and emergency landing the circular brake ring on a Ryan will stand down more than it is capable of supporting. This causes the landing gear to break away from the aircraft. The rubber belt has become very strong from use, and it is now possible to bend one end of the belt around a hook in the rear support bar, and then to pull the other end of the belt through the hole in the rear support bar. This way the ring can be expanded with an ordinary mechanical device, and the aircraft can be landed in safety.

—Shop Suggestion No. 434



WELDING POWDER USE OF SCARF RUBBER

The rubber part that covers the fuselage of a Ryan goes in if it makes a sharp turn, and it is very difficult to remove. Previous to the use of the scarf rubber, the rubber had become very strong from use, and it was necessary to use a sharp metal tool to remove it. This is a slow and dangerous process. The new scarf rubber, shown in the illustration, is a new one. E. W. Morris, Jr., of Ryan's Group Engineering Department, developed this idea, and it has been used on nearly ten-thousand Ryan aircraft and has proven extremely satisfactory, especially in the case of the Ryan 147. The scarf rubber is very strong, and it is very difficult to remove. From early on, and has been used on nearly ten-thousand Ryan aircraft and has proven extremely satisfactory, especially in the case of the Ryan 147. The scarf rubber is very strong, and it is very difficult to remove. —Shop Suggestion No. 435



RYAN *Airplanes*

Ryan Aeroneautical Company, San Diego - Hanford - Akron - War Production Council, Inc.

DESIGNERS AND BUILDERS OF RAYN FIGHTING PLANES AND EXCELSIOR MANIFOLD SYSTEMS



Artist's drawing of the Ensign in flight

Fixed Bases Warned About Negligence

Some of the soundest advice that is being offered aviation sales and service operators currently is contained in the monthly news letter of the Washington State Aviation Association, over the signature of A. L. Baxter, president.

Baxter's latest urgent message cautions the facilities that negotiate leases the planes today by airport operators or rather the lack of them.

"I returned recently from a trip down through Oregon and Southern California and am curiously impressed by the lack of facilities of all airports visited. It seems to me that most of the operators are drifting right back into the old barnstorming days."

"I hate to say it but if what you see around the ordinary airport and flight operations is what we are going to offer the public, private aviation is going to decline and die. Isn't the business worth enough investment to present a nice clean operation to the public and above all a little personal service?"

"The startling revelation of the entire trip was this, and a lot of you old timers are going to disbelieve it, but the only people we visited and places we saw that were half way clean and that tried to offer a little service were men who had been in the business a very few months."

"We also saw old timers actually trying by unorthodox methods to force the little newcomer out of business, just because the young fellow who didn't know any better was offering some service and taking their business."

"It is a sad state of affairs and any of you who have visited any



WASHINGTON AIRPARK:

Drawing showing how the proposed airport for Washington, D.C., would fit into the National Memorial Stadium project site being considered by a committee of Congress, picture the landing strip, 300 by 3,000 ft, in foreground with a 3,300-ft waterway jet response landing alongside. Parking facilities for approximately 100 planes would be available, together with nearby bus, trolley and rail transportation. Prepaid site is one mile from the Capitol, three miles from the White House. Construction of the airport as a memorial to Americans or achievements in World War II is being actively urged by the Aero Club of Washington. Drawing shows airport in relation to stadium and other recreational facilities projected.



airports know what I am talking about. You would not attempt to run any other public service than now the way most of the flight operators are trying to sell aviation."

Baxter describes a visit to one

"typical" operation, and warns that the short-sighted operators are "cutting off the head of the goose that lays the golden eggs" by failing to provide reasonably good service and facilities to the flying public.



Used Plane Lot: Relando Motors' used lot in San Diego, Calif., has now been converted to a sand plane lot, as shown above, for re-sale of surplus Ryan

PT-22 trainers. Planes are sold after reconditioning and appraised by CAA inspectors, with delivery and a load of gas included. (Story on Page 21)



Centuries of Power *behind the Constellation*



A year is only 8760 hours. The Wright Cyclone 18 has a total flight and test time of ten million hours. In hours, years, or animal rings in a tree, that's centuries.

In the way years, the Cyclone 18 has gone through a fast, grueling development program. No other engine has ever had to take such punishment — excess temperature, overloads, overspeeding, lean mixtures and maximum noise handicapped by supplies.

From that stage, however, came continuous refinement and design changes — improvements which paved the way for increases in performance and

only of numbers, but of all types of planes powered by the Cyclone 18.

Thus, the Cyclone 18 built today for planes such as the Lockheed Constellation is the sum of this ten million hours of experience. The forced acceleration of war has produced an advanced engine, years ahead of its time, for all types of planes.

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The 25-passenger Lockheed Constellation, whose
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Four Breeze-Shielded Wright Cyclone 18's rated at
3200 HP power the Boeing B-29 Superfortress in its
smashing attack against the Japanese homeland.

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Lightplane Instrument Era Forecast By Sperry Head

Measurement of personal aircraft utility sees depending upon instrumentation in many localities.

Utility of the personal plane will be measured in many localities by the kind of instrumentation equipment it has, in the opinion of R. E. Gilzilzer, president of Sperry Gyro-Systems Corporation.

The Florida, New Mexico, and Arizona flyers have almost perpetually "contact" weather and thus need but few instruments, while the Cape Cod, Long Island, and Chicago areas need more complete instrumentation, and the man who flies out of Pittsburgh or Birmingham can make up his mind at the outset to buy a complete set of instruments if he hopes to use his plane with any degree of regularity.

Cost Formula.—Writing in the newest issue of the *Stewardship* Periodical, the Sperry president reports a direct ratio between the percentage of additional flying days available with instrumentation, and the cost of that instrumentation for a lightplane.

In New England weather averages influence 180 days a year contact weather. If 40 days are restricted and 80 days available, the first year that 20 percent of the year that is neither contact nor instrumented, it will cost him just about an additional 26 percent investment in flight instruments and radio equipment to do so safely and legally.

It is expected that the average lightplane pilot will get most of his additional flying safety, not by actually improving instrument weather, but by using instruments in "extended contact" weather when smoke and haze either than clouds and precipitation restrict visibility.

Fear Needs.—Gilzilzer lists four instruments as necessary for such flying:

A compass-controlled directional gyro, an air speed indicator, an altimeter, and a gyro attitude indicator, which will show the attitude of the plane with respect to the earth's surface at all times throughout the 360 degrees of roll and pitch.

He classifies "tomorrow's lightplane" in three categories as to instrumentation:

• The "Model T" for local flights

and short trips in excellent weather, equipped only with compass, air speed indicator, altimeter, and engine instruments.

• The utility plane, for transportation between airports within a 200-300 mile radius, equipped with compass, directional gyro, gyro attitude indicator, air speed indicator, and two-way radio with direction finding for location.

• The long-range plane with large tanks, equipped with all utility plane instrumentation plus an automatic pilot equipped with gyro range.

He expects a trend toward instrumentation installed at the factory where the plane is built, rather than leaving it up to the customer, to insure proper instruments, and to minimize possibility of accidents.

Gilzilzer reports "it is a certainty

Hangar Rent

Fifteen dollars a month is the average hangar rental for lightplanes, according to a survey recently completed by the Aerotecnical Training Society on a basis of planes received from aviation sales and service operators throughout the country as well as working communities.

W. W. Winkler, ATTS, secretary-treasurer, reports that storage costs of fields near major cities are higher than those in small fields distant from cities, due, presumably, to lower land values and less expense for heating, cooling, and lighting.

Night Vansane.—Northern operators reported generally higher prices than operators in the South. Winkler and, however, that \$12.50 a month appears to be the minimum even in the South. The hangar fees of buildings are "apparently" constructed by experienced management.

The survey is a part of a continuing study by ATTS on the problem of storing personal planes safely and economically. It is felt that an important factor in getting the personal plane greater utility is more potential users.

try that instruments will be available for the lightplane at reasonable prices, of such design that it will not take hours of practice to learn how to use them.

SAFETY Example.—As an example of the simplicity already attained he reports that pilot with less than an hour's instruction in the use of the Sperry gyro attitude indicator have been able to accomplish perfectly executed loops and slow rolls "under the hood" by relying upon this instrument to give them a continuous picture of the movement.

Car Dealers Shift To Used Aircraft

An enterprise which began as a used car lot last January in San Diego, is now doing business as a used plane lot, selling surplus PT-17 Ryan trainers, purchased from the government.

James Deits and Ted Albrecht, co-owners of Reliant Motors, opened their used car lot after acquiring and dismantling their business, and charge an Air Transport Command pilot, last winter.

Sales Terms.—In April, soon after they bought a surplus plane for their own pleasure, they decided to market the planes along with the cars. Before they are sold the planes are reconditioned and presented sanitary by CAA inspectors. Prices run from \$2,500 to \$12,500.

Despite the fact that the surplus military training planes are not particularly suited for use as personal aircraft, most of the planes are to middle-aged couples who want to learn to fly, the dealers report. Planes are sold with a tankful of gasoline and delivery to a nearby airport included in the purchase price.

A third worker at the used plane organization is Ruth Thompson, former WASP, who is secretary and treasurer, and who makes delivery flights after many of the sales.

Experience.—Dean, before entering the ATC, held the Taylorcraft dealer franchise in San Diego. Most of his private flying was on the India-China "over the Hump" route.

• Vernon Van Ness has been appointed public relations director of the 1st Grade Aviation School of Moers, and has begun a new publicity and public relations program

Air Planning Guide Presented By Pilot

Businessman-aviator tells NAA
party that easy access, all-access
use, fixed flyers "wanted" list.

City planners concerned with
providing landing facilities for the
private flyer have been given a few
tips on what the flyers themselves
would like, as viewed by one of
their number, Z. M. Laddusay, Min-
neapolis business man.

Speaking at the recent National
Aeronautic Association Joint Air-
port Users Conference, Laddusay
described his own experience
pertinent to these factors:

- Easy access to town.
- All-weather usability. This does
not necessarily mean hard-surface
runways. Runways should be
readily discernible from the air,
should be at least 500 feet wide.
- Adequate storage capacity, with
multiple T-hangers apparently the
best bet. There should be as little
glass handling as possible.
- A main office building containing
rest rooms, lunch counter, facilities
to obtain weather information.
- Facilities to make minor repairs
immediately. ("I have had to wait
12 hours to have a 75-cent job
done.")
- Parking and storage space for
automobiles.
- A limited spectator area to keep
people away from whirling prop-
ellers.

There is also a great need for
uniform location of wind bars and
wind socks, Laddusay said. Airport
buildings should be clearly visible,
perhaps with colored roofs. Land-
ing area boundaries should be
marked, and arriving planes should
be given taxiing instructions by
some visual means as soon as they
land.

Private Flyer Unit To Aid State Heads

A private flyers' advisory council
will assist the Indiana Aeronautics
Commission in its dealings
with personal aviation, C. F. Carn-
ish, newly-appointed director of the
commission, has announced.

Another advisory council, including all commercial aviation interests,
will also work with the commission so that all aviation in-
terests in the state will have a
direct voice in the commission's
actions, Carnish said.

For "Leave" Rules — Carnish ex-

Briefing For Private Flyers and Non-Scheduled Aviation

If personal aviation is to make a real contribution to the public well-being, it must be simple enough so that the rank-and-file Americans can enjoy it without a great deal of study. A number of individuals in aviation years to retain that certain halo of heroism which once attached to the man who could pilot a plane and which is dimmed in ratio as the number of people who learn to fly increases. But, except for these, it is generally recognized in aviation circles that private flying is not, actually, too difficult an art to attain and certainly should not be made more difficult by regulation.

WOMEN FLYERS' ATTITUDE—All this being a preface to consideration of the recent action by the Boston Chapter of the Women Flyers of America in adopting a resolution urging that relaxation of the regulations affecting private flying was "the most backward step taken since aviation developed." The Boston WFA chapter went on record favoring return to the flying at physical examinations only by CAA-designated medical examiners, giving the examinations "at least once a year" and keeping physical requirements high for "reasons of safety." And they said that the number of dual instruction hours should not be cut as "many careless and hazardous flying habits are formed when there is not sufficient supervision during the training period."

It is surprising to find an organization representing the flyer lined up in opposition to an almost unanimous aviation front which is firmly supporting the more liberalized CAA regulations. As far as we are able to learn, the WFA finds itself alone among aviation organizations in its stand. It is for the Auto Mechanics Association, which of course would have much to gain for its members if it could bring about a return to the former system of physical examinations, and so is not exactly a disinterested party.

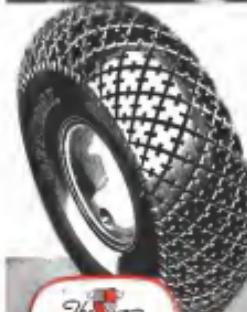
GUIDE TO PRIVATE PLANES—comes now Lester Ohl, well-known aviation writer, with his compilation of facts and pictures on the private planes which will be available soon for the flying public. The paper-backed book, "The Standard Guide to Private Planes," is published by Associated Publishing Associates, New York, and contains a roundup of most of the monoplanes, amphibians, helicopters and multiplanes which have been announced, together with chapters on how to buy a plane, insurance, regulations, instrument flight, navigation, weather, how to fly, an aircraft director, and lists of manufacturers, dealers and distributors. An index classifies the planes listed in price, passengers, landing speed, rate of climb, service ceiling, range, payload, and top speeds and engine power. Excellent photographs, most of them by Hans Granelli, enhance the book's appearance.

TRI-PIECE SQUEEZE—Our first look at a Johnson Rocket 105, recently at Indianapolis, disclosed a plane with beautifully smooth finish, excellent lines, and spectacular performance. But—the plane is being described as a three-plane job, and it looks like a very snug fit for three, especially for a flight such as you might expect to make with a plane whose range is quoted at 850 miles.

QUONSET HANGARS—Parks Aircraft Sales and Service will install the first of a large group of new Butler unit hangars at the Indianapolis airport operated by Doug Fletcher, as soon as the hangars, patterned after the Quonset but widely used overseas by the Army and Navy, are delivered. Eventual plan call for hangars over most of the airport, leaving room only for the runways. —Alexander McMurtry

prested his personal opinion that some of the new civil air regulations for the private flyer were over-liberal, and might result in increased hazards to the public. He warned that the new regulations entailed greater responsibility to the flyer and the airport operator.

If this responsibility is not assumed, he said, state or municipal regulations are likely to supplement the federal requirements. He indicated he was considering additional state regulations to supplement Part 65 of the Civil Air Regulations.



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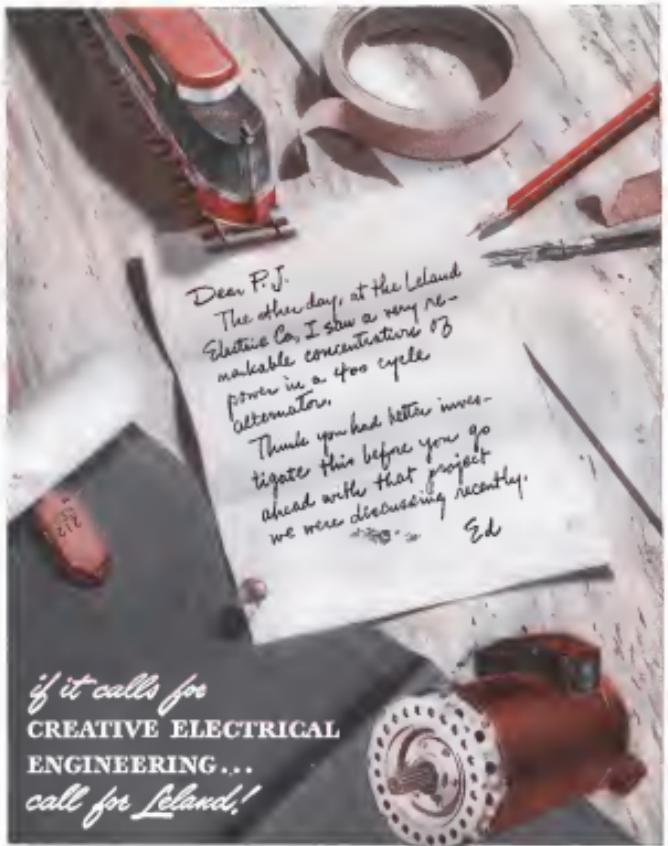
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Farm Lightplanes Filling New Tasks

Kansas couple coordinate harvesting business from Oklahoma to Canada with private craft.

The value of personal airplanes to farmers is being increasingly demonstrated in the midwest in a variety of ways. One of the most notable is the utilization of a light plane in the harvesting business of Mr. and Mrs. Ki McDowell, of Darrville, Kansas.

Operators of a ranch and flying service the McDowells also have a crew of six men and three combines which harvest grain in fields from Oklahoma to the Canadian border. When the crews start out, McDowell keep contact by am-bi-air "Drumming"—They also fly ahead and in passes, and drum up harvesting business from nearby farmers. Then they fly back to their crew with instructions.

When a combine breaks down they fly to town, pick up the necessary parts and fly back to work less time than it would take 90 to go by car or truck. Sometimes needed parts aren't available in the closest town. These parts are located in nearby towns by telephone from down town.

Both are private, a factor which often facilitates the work. This custom type of combining-by-apartment is proving both practical and profitable, the McDowells report, and they find traveling the farm countries that way changes than by car or truck.

Not New—Lining up work near Imperial, Neb., recently the McDowells found their type of service is nothing new to farmers in the area. Several ranchers and growers in Western Nebraska are known to use lightplanes or "air buggies" in connection with their businesses.

One is Dewey Travers, manager for the Imperial Farmers Supply Elevator. He gets badly needed repair parts in his lightplane, and has the service organized to serve others in the area, Travers believes. The day is not far off when ranch shops at the time to service stalled rural areas will have portable welding and machine shops built into planes and fly the shop to the break-down.

The plane is being promoted especially as appealing to salesmen and other traveling alone on business. It is expected to have a comparatively long range and with a 30-hp engine has already demon-



Fruitful Flying: Mr. and Mrs. Ki McDowell, Darrville, Kansas, and the lightplane which they use in conducting a harvesting business. It serves as the "eye" of their harvesting crew, an advance "wagon," and a delivery "truck" for spare parts for the combines.

Civic Groups Aid Skybopper Builder

Kansas City chamber of commerce joins in much for plane to house center of novel one-plane lightplane.

Plans for commercial production of the Skybopper, the one-plane lightplane designed by George Solvay, are being formulated in Kansas City. Now with the local chamber of commerce and other organizations aiding the designer in his search for a plant.

A revenue version of the original Skybopper, which was built in a basement by Solvay and George Stark (Astronomer News, February 1), will be put into production when a factory is obtained. The Solvay organization will seek an approved type certificate for the latest design.

Cost-Features — It will sell for about \$13,500, according to present plans, and will feature non-retractable tricycle landing gear, a large baggage compartment, a new-type door enclosure and a 35 horsepower Continental engine. No attempt will be made to make the plane too heavy or too elaborate for the present model Skybopper. Solvay plans to employ it for personal use and in working out designs for later models.

The plane is being promoted especially as appealing to salesmen and other traveling alone on business. It is expected to have a comparatively long range and with a 30-hp engine has already demon-

strated a cruising speed of more than 150 mph.

One-Plane Airbase Opportunity Seen

There is still plenty of opportunity for operators to build a profitable airbase or combination from a showplace start, as the operation of Alfred B. Bennett, sales manager of Astronomer Aircraft Corp.

"All you need is an airplane and a plot of ground of some 40, 50, or 100 acres which you can rent for, let's say, \$4,000 a month," Bennett says. "The airplane can be a second-hand one or, much better, a new one. As soon as your airplane is delivered you're in business because it can start producing revenue. You stay on the job and give flying lessons. You use your plane as a demonstrator to sell new ones."

Historic Contribution — Despite the fact that there are today more than twice as many privately-owned airports and that the basic idea of the development is associated with mass of management's taking over unprofitable private operators, Bennett told the Jurk Airport Users Conference that his plan would work.

He cited his own experience and added "Operating one little airplane with overhead costing of \$46 or \$52 a month for field rent and a monthly payment on the airplane, and operating expenses, a few gallons of gas each day, there aren't many mistakes you can make that will wreck you."



Now it can be told!

While many of Goodyear Aircraft's products continue to be confidential, we can now release part of the picture of Goodyear Aircraft Corporation at war. More than sixteen different types of aircraft speeded into service! In addition to complete Corsair fighter planes and airships for naval patrol, more than 100,000 major components for other aircraft already produced - all this evidence of engineering, tooling and production ability built up during 35 years' experience in aviation. Evidence, too, of ability to handle assignments the future will bring. Goodyear remains dedicated to the ideal of keeping America first in the air.

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PRODUCTION

U.S. Jet Problem Solutions Seen By British Engine Official

Airlift use of gas turbines forecast within several years by Ministry of Aircraft Production expert Banks; commercial success of resonance powerplant doubted; rockets suggested for supersonic speed.

The director of engine development for Britain's Ministry of Aircraft Production, Air Commodore F. K. Banks, foresees early solutions of America's jet engine problems which to some are discouraging.

At Beverly Hills, Calif., last week, the British engine authority provided *Aviation News* with a summary of his observations following conferences with U. S. engine builders and aircraft engineers.

Future Tone.—"Our own and your jet engine development now should move more rapidly toward a point where this power source will be safe for airline work," Banks said. "I have every reason to believe that in from three to five years your own engine will be in excellent working order."

He added that it was reasonable to expect that in time the jet engine will eliminate the piston engine and he said he believed that this will begin to take place in from five to seven years with jet, straight jet or propeller jet, according to altitude and speed requirements, coming into the field to make the piston engine obsolete.

Banks doubts that the resonance jet engine will prove to be a commercial success, but he conceded he has not been involved in American research and that he has assigned an engineer to study, on the West Coast, resonance engine improvements developed by the G. M. Grammer laboratory in Pasadena.

Non-Fuselage.—There is a degree of prudence, he feels, in the

abstained—our can jet—engine for supersonic speed aircraft. Related to discuss his own country's experiments in surmounting the speed of sound, he predicted that success in this phase of aeronautic research may not be far off. He believes that supersonic flight in a jet-propelled aircraft should be "practical" within five to seven years. The problem of "pounding" aircraft over the border of sonic speed may be solved, he feels, by the use of rocket power.

In making his tour through United States aircraft production centers, Banks not only is studying closely American powerplant developments and installations, but he also is urging a strong technical alliance between this country and Great Britain as a means of preserving international good will.

"I am hopeful that your people will see fit to develop with us, as we are prepared to do, a free exchange of technical information," Banks said. "I am convinced that if America and Great Britain can stick together for the next ten years they will be lifelong friends."

Atom Bombs.—As has been the case with American aviation leaders, the British visitors deplored the atomic bomb as a menace which promises to "alter all of our ideas concerning military aviation."

"It becomes apparent that our future military production of aircraft will be largely that of transport fleets to carry troops," Banks said. "With a few high speed bombers designed and built to carry atomic bombs to wherever they may be needed, I anticipate that the troop transports will serve the purpose of bringing order out of localized conflicts and that the atomic bomb will be reserved for use only as a last resort against a nation threatening a major conflict."

Fuel Fume Protection

Revised from previous refinements by the end of the war, the Glenn L. Martin Co. has disclosed it developed a method of insuring that fumes of high-octane gasoline could not leak from aircraft tanks.

The protection is afforded by a thin film of vinyl anesthetized between the layers of synthetic rubber which form the walls of the fuel tanks. The company claims it is the only practical method yet devised to prevent escape of the fumes of high-octane, aromatic gas.



BACKWARD DESIGN:

Like the mythological bird that flies backward because it wants to see where it's been, but doesn't care where it goes, this British plane appears to be going in reverse. It has a small prop in front, the main airfoil at the rear. Said to be extremely nimble for narrow aisle, it's named Little Bird, and was designed by George Miller, chief designer of the noted first of that name. It is also considered a potential personal plane market entry.



LIVING ROOM IN THE SKY!

YOU'LL have room to live in and enjoy it—in your new Taylorcraft Tandem Room so much out and about... room for the whole family... room for radio, ash trays, and all the comforts of home in the biggest, roomiest cabin ever built for a four-passenger airplane.

Room is only the beginning of the comfort you'll enjoy as your "Craft" travels. Wait till you sink down in those soft upholstered seats... walk till you glimpse that view, unobstructed all around—it's like a picture from a postcard!

Wait till you start that engine—with just a touch of a button. Wait till you get the feel of the motor—the

front (performance tests have proved) ever built for a four-passenger ship.

And wait till you learn the price—just half or less than half the price that four-passenger planes have always sold for!

You won't rest till you're living in the skin in a plane that you can rest assured is the last word in safety, speed, and topflight comfort and performance.

A plane you can own on any budget terms!

See your Taylorcraft dealer now—or write for full information about the new family plane "with the bottom cut out".



Taylorcraft

World's Largest Builders of Side-by-Side Airplanes
TAYLORCRAFT AVIATION Division of General Aircraft Products, Inc.

ALLIANCE, OHIO

Leased War Plane Factories Assume Vital Peacetime Role

Vastly expanded aircraft manufacturing structures seen making government-owned facilities essential for most firms; Army lists surplus plants; Navy plans set for early disclosure.

Back on a pencil-thin basis of competition and "private sector," aircraft manufacturers are moving quickly to develop their plant facilities for civilian production.

While not impacting their plants, most manufacturers are felt to be interested in making some kind of a deal for the continued operation of the government-owned plants they leased during the war.

New Light—Some additional light on just what will be available in the way of plant capacity may be shed this week when Congress reconvenes. The Navy Department has prepared its recommendations on plants which it owns or controls and intends to send them to Capitol Hill promptly.

Army's action in declaring 85 aircraft plants surplus (AVIATION NEWS, August 31), does little to clarify the plant picture. Few of the plants listed were major assembly points, and, additionally, some manufacturers have indicated interest in securing plants not yet on the surplus list.

Among these, the McDevitt Aircraft Corp., which is negotiating for a lease on the facilities formerly used by Curtiss-Wright at St. Louis, and Bell, which is delinking with the Reconstruction Finance Corp. to purchase the Niagara Falls plant it leased for war production.

Industry 'Heirs'—Certainly that the majority of the large assembly facilities eventually will wind up in the hands of the major manufacturers is expressed in industry circles.

It is pointed out that pre-war plants as such no longer exist. Enlargement and other changes to fulfill the needs of war completely changed them.

In 1940, there were 25 aircraft, 12 engine, and four propeller plants. The war expansion has raised these figures to 49 aircraft, 17 engine and seven propeller factories. In addition are the small, medium-size sub-contract and component plants. Nearly all the construction, 85 percent according

to one estimate, was financed by the government.

In sum, the foregoing means that use of war-built facilities is practically indispensable for most aircraft firms. However, there has as yet been no clearest indication of the method by which companies will seek to continue use of the plants. It is not a matter of joint industry effort, it is explained, but rather a problem for each firm.

Lease or Buy—The industry is convert him made some general

*Aerospace Aircraft Corp.

*Bellanca Aircraft Corp.

(Plant located in middle of company's privately owned plant)

*Boeing Airplane Company (Under Army's direction)

*Cessna Aircraft Corp.

Consolidated Vultee Aircraft Corp.

*Fokker Engine & Airplane Corp.

(Change Aircraft Division)

*Friedman Company

(Later bought Avcolet Engine plant)

*General Motors Company

General Motors Aircraft Company

*Grumman Manufacturing Company

Hammond Foundry Company, Inc.

*Hartford Manufacturing Company

Hedstrom Manufacturing Company

Hiller Motors, Inc.

*Hornbeam Sandite Manufacturing Company

*Ingram Aircraft Corporation

(including McDevitt Center and

*McDevitt Aircraft Corporation

(Formerly McDevitt)

*Moody Field

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B-24N Changeover Extent Revealed

More than a half million tooling hours—half as many as required for all the major changes in the first 7,000 Liberator bombers produced at Willow Run—were needed to make the changeover to the B-24N.

The B-24N was being developed by the AAF to supplement the heavier bombers in dealing final blows in Japan. Although production was scaled down during the changeover last Spring, the AAF had planned to boost production of the new plane to a 100-a-week-rate by fall.

B-24N The—Fundamental design changes, including increased horsepower and a single vertical fin instead of the twin tail, gave the Consolidated Vulcans increased range, more speed, apparently more ceiling and greater aerodynamic stability. In the tail section alone, 1,000 new parts were required. Aside from the changes required in making new dies and fixtures to provide parts for the B-24N, more than \$80,000 was spent to revamp the physical structure of the plant in the final assembly area in order to handle the different dimensions.

Improved Pratt & Whitney engines made available 600 extra horsepower. The new tail, test pilots reported, provided greater flight stability. Other improve-



New de Havilland four horsepower propeller.

ments not previously reported included a new ball turret in the nose, a deicing and heating system utilizing the engine exhaust heat, a new canopy over the pilot's deck and lighter turrets.

Before the last orthodox B-24 was made June 25, Ford engineers virtually had completed the retooling of Willow Run and already had completed eight of the new models.

No. 1 Air Problem Cited By Laddon

One of the most important problems facing aircraft manufacturers, industry and the opinion of E. M. Laddon, executive vice-president of Consolidated Vulcans, is how to get an airplane through the "area of compressibility" reached at the speed of sound.¹

Laddon, pointing out that high speed reached through jet propulsion and gas turbine-driven propellers demands new types of airplanes. He says that "progress in the design and production of aircraft is not ending, but just beginning."

Kinner Air Interest

Interest of Kinner Motors, Inc., in the aviation field will be emphasized by giving added attention to design and engineering according to John N. Gladden, new president of the company, who said that Gladden Production division of Kinner is rapidly broadening its services to the industry in the hydraulic field.

Kinner's entry into the small horsepower stationary gasoline engine field has expanded the company's line. During Gladden's 15 years' experience in the aviation field, he stressed design and engineering.

is normal, allowing extremely high speeds at relatively small horsepower.

While the airplane is flying at today's ordinary speeds, the air flows over and under the wing, around the fuselage and tail . . . but when we begin to approach these speeds we meet a new phenomenon. Instead of the air passing and flowing around the wing, some of it piles up. The effect, when you are flying a plane, is like that of hitting a brick wall, and the turbulence of the air beats the plane violently.

That is the "wall" that must be pierced.

New de Havilland Props Fit Lower Hp. Engines

Two new propellers for lower horsepower engines have been announced by the propeller division of de Havilland Enterprises in England—one a three-blade with the new reverse-pitch feature suitable for engines of 330 to 380-hp, and a single propeller for light airplanes in the 150- to 200-hp. class.

The three-blade hydrodynamic model gives from 25 degrees of constant-speed range within a total of 130 degrees of angular movement that embraces not only feathering, but also reverse-pitch for power-on braking to shorten the landing run.

Diameter at 7.5 feet; wide forged blades of aluminum alloy are fitted and the weight is 130 pounds, plus 30 pounds for spinner, feathering equipment and control unit. Rate of pitch change is in the order of 30 degrees per second. The mechanism is basically the same as the standard hydrodynamic, but with Z-shaped cam slots to give the third step needed for braking.

FOR EFFICIENT PERFORMANCE

Proved in Action



FOR EFFICIENT PERFORMANCE

D-X Aviation Oil has been used every day all over the world in warplanes of the United Nations—and it has performed gallantly. It is manufactured to meet the specifications of U. S. Navy Symbols 1100 and 1120 Aircraft Engine Lubricating Oil. Characteristics include maximum resistance to carbon, sludge and lacquer formation, maximum power performance and enduring film strength. Soon available for civilian use—Inquiries invited.

MID-CONTINENT PETROLEUM CORPORATION

TULSA, OKLAHOMA

COMMENTARY

Radar Weather Forecasts Head For Peacetime Uses

Two-year-old AAF Weather Service success with radar equipment in detecting storms and analyzing winds afloat promises new protection for civil aircraft; use at all airports suggested.

From time to time unexpected new angles on the war's unique man-of-all-work, radar, may be expected. And, as usual, most of them, unlike the atomic bomb, will be wholly constructive, with obvious and encouraging peace-time applications.

For more than two years the Army Air Force Weather Service, which has become global in its coverage, has been employing various types of radar equipment and radio direction finding sets in its highly important task of detecting the approach of storms and studying the winds of the upper world.

High Tracking—By utilizing a gas-filled balloon to carry a suitable reflector aloft, the direction and movement of upper air winds can be determined by tracking with ground radar the reflector as it moves with the wind layers aloft.

This procedure enables the determination of upper winds under conditions which prevent the utilization of the visual methods heretofore used. Special radar equipment is not necessary, and the Weather Service uses on a part-time basis all available sets already in the theater, procuring as many of its own radars as possible and training personnel to go with them.

The set most frequently used is a piece of Signal Corps radar equipment designed for searchlight control and anti-aircraft artillery control, but later developed by the IX Tactical Air Command as a vital link in fighter control operations.

Long Range—This radar set will track a corner reflector attached to a balloon for a distance beyond 60,000 yards client range, with a high degree of accuracy.

The first member of the crew



UNITED'S 'PARTING SHOT': This Flying Fortress, christened "Our Parting Shot to Tokyo," was the last modified at United Air Lines' Chryseane modification center. Approximately 2,500 of the ships were modified at the center, which was opened in 1943.

records the data on the plotting board and computes the winds. The radio operator tracks the balloon in range, calling off the range every minute from his scope. Simultaneously the elevation and azimuth dials are read off every minute by the third man. At the completion of the run the report (called a "runin" message) is transmitted by teletype to all stations in the weather circuit.

The radio direction finding tech-

nique was developed a bit later

instead of a corner reflector which cannot yet be detected by radar.

CW (continuous wave) transmis-

sion is utilized in the balloon

and its altitude is measured by

magnetic interruptions of the

CW signal.

Lower Performance—Although less expensive it is easier to main-

tain, the RDP performance is not

equal to that of radar. However,

more and more stations are being

set up, and the two methods be-

tween them have just about all

the wind problems licked.

Microwave radar is able to de-

tect concentrations of large water droplets falling through the atmos-

phere as precipitation or sus-

pended by strong vertical currents.

There are several ground radio sets which pick up weather targets well, including the one most wide-

ly used in the "nowin" program.

The versatile MEW set (macro-

wave early warning), despite a limitation in the vertical plane, has performed an outstanding service in Europe and in the Pacific in storm detecting and aircraft we-

athering.

Main Use—This guidance of air-

craft around thunderstorms and

rain areas, particularly the nu-

tritious high fronts in the Pacific,

is the most important tactical ap-

plication of radar storm detection.

NAVIGATOR



COLLINS 32RA RADIO TRANSMITTER*

A deservedly popular 50 watter....

The Collins 32RA* was introduced in 1939 as a quality designed, quality built radio communication transmitter, broadly adapted to most applications within its power and frequency scope.

It, or its d-c version—the 32RB*—was originally put into service by airlines for control towers, by oil pipelines for emergency systems, by fishing companies for fleet control, and by other widely different types of industrial users.

It was found to be rugged, simple to operate, easy to service, and so thoroughly and universally satisfactory that a strong commercial demand was halted

*32RA-32RB-Power source, 115 volts alternating current. Frequency coverage, 30 meters to 12 mcs. Total frequency coverage, 100 mcs. Frequency stability, 1000 cps. 32RA-32RB-Power source, 65, 84, 93 or 100 volts direct current. Frequency stability, 1000 cps. Frequency coverage, 100 mcs to 12 mcs.

***** IN RADIO COMMUNICATIONS, IT'S . . .

only by the user. During the entire war the Armed Forces have employed thousands of these transmitters. A typical use has been that of control towers on air training fields throughout the country.

Of the several up-to-the-minute transmitters which Collins has ready for its civilian customers as Government requirements are cut back, this one represents a type of which limited quantities are now being manufactured for essential civilian uses.

If you would like specifica-

tions and design data, write us for new, illustrated bulletin, Collins Radio Company, Cedar Rapids, Iowa; 11 West 42nd Street, New York 18, N. Y.



plane manufacturers interviewed recognized the advantage of air transportation both to themselves and the retailer. Speed is important because (1) the business is seasonal, (2) retailers carry limited stocks, (3) sales could be increased up to 10% if more stores stocked, (4) merchandise would arrive in better condition for sale, and (5) in the case of stock houses, their existence is based on quick delivery and the retailer relies on such houses to carry stocks.

The printing and publishing of magazines provides a large potential market for air transportation in the shipment and receipt of electrolytes, plates, copy and proof. But, here, it is the advertising agency or photostatic to whom speed is most important. If a newspaper receives a plate late, it risks it the next day.

The survey indicated that general magazines (as distinguished from news magazines) or trade magazines were unlikely to move by air at the hypothetical rates used in studying the Philadelphia market. Likewise, the newspaper market is not a market for air transportation. Our Philadelphia circulation manager anticipated that the selling area of his paper could be increased because (1) a newspaper cannot pay a great deal for transportation, and (2) the area of circulation is restricted by other papers.



COWLING FOR PEACE:

Indicative of the mass production of aircraft which contributed to the winning of the German and Japs are these engine cowlings for Douglas C-54 Skymasters at the company's El Segundo plant. They will now be used for peacetime planes.

Among the wholesale business, the survey indicated an important market for the shipment and receipt of jewelry, diamonds and optical supplies.

In this group, speed is important for a number of reasons. First, the business is extremely seasonal, where cost is no object so far as getting merchandise for the Christmas period is concerned. Second, large sums of money are tied up in constant long distance surface hauls. Third, samples can be expedited by moving all samples by air. Fourth, cancellations can be considerably reduced at the seasonal peaks such as Christmas, Easter and Graduation.

If one large wholesale florist covered proves to be representative of the business, most shipments and receipts of flowers moving long distances will be shipped by air even if the rates are high. Among the reasons given for the desirability of air transportation were the following:

1. Individual flowers have a "style" or "popularity" factor, and it is important to meet this changing demand.
2. Some flowers such as lilies are highly seasonal.
3. Flower prices are very unstable.
4. Cost of refrigeration on most varieties can be saved.
5. Out of Iowa rush orders could be filled.

However, the florists will insist

on certain qualifications, namely, (1) dependable air cargo service, (2) flowers must be protected against temperature heat and cold, and (3) protection must be made to protect the flowers from crushing.

Cutbacks Absorbed At Noorduyn Plant

Cancellations at Noorduyn Aviation, Ltd., have affected some minor subcontractors but, unless there are further contract terminations, no large reduction in the numbers of employees is in prospect.

The company employed 11,900 workers at the peak of war production and today has 4,738 on the payroll engaged in five major projects. These are production of 25 Harvard advanced trainers per month for the RCAF, production of component parts for the four-engine Lincoln bomber, successor to the Lancaster, under contract from Victory Aircraft; production of Marquette components under subcontract from the de Havilland company; production of the Norseman, and repair, overhaul and conversion work.

P. S. Order Belt—R. C. Noorduyn, president, said that some months ago United States orders for the Norseman were stopped and employment was reduced proportionately as the deliveries of aircraft and spare parts tapered off. This process, he added, is not yet entirely completed.

Noorduyn said that a considerable number of inquiries for Norseman have been received from 18 countries and that there is known to be a shortage of "bomber-type" aircraft. The result, he said, has been a trickle of orders for the improved Norseman, a transport plane for civilian purposes. He expects this to increase as the opening up of manpower supply permits the expansion of mining development.

"At the same time," he added, "in Canada, as in other countries, the manufacture of commercial aircraft cannot be expected to grow into a self-supporting business unless the basic facilities and organization necessary are maintained by government orders. In the interim and perhaps as a permanent condition, The insulation and announcement of a government policy in this respect have become an immediate and vital necessity."

your safety can hang by a thread

Like small **AIRADIO** Airport check? Visibility jobs? No need to worry about flying errors when you have the protection of **AIRADIO**. Here is modern two way communication equipment to light that it can droop by a thread...despite the fact that it gives you twice power per radio voice for superior radio range, weather broadcast, telephony and selected broadcast reception.

AIRADIO is convenient in your plane, too. The actual size of the panel mounting is scarcely larger than a pack of cards, and don't forget **AIRADIO** is easy to install and operate. Only two switches and one tuning dial, operating from the receiver panel, bring you all the safety and entertainment you want.



TRANSPORT

N. Pacific Route Recommended For NWA By CAB Examiners

Report would give Pan Am other share of trans-Pacific air travel by extension of existing routes; closer links with Alaska indicated as Territory line gets favorable consideration.

By MERLIN MICKEL

The youngest U. S. transoceanic air carrier and the oldest U. S. international airline would share trans-Pacific air travel between the country and Asia under recommendations of Civil Aeronautics Board Examiners Ross L. Newmann and Lawrence J. Kestens in the Pacific case.

Their report, if approved by the board, would give Northwest Airlines, now flying from Seattle to New York, a route from the co-terminals of New York and Chi-

ago across the North Pacific to the Philippines.

► **Euopean Link** — In the East and Central Pacific, extensions to Pan American Airways' existing routes would carry them on to Australia and India and give Pan American a connection with its European route to Calcutta, awarded in the North Atlantic case.

Examiners and Northwest's new route would be authorized for seven years, time limit

set by the board on new certificates in the North Atlantic case.

The examiners, last week, also recommended that Alaska Airlines be allowed to fly to Seattle from Anchorage, and that Western Air Lines' AM 52 from Great Falls, Mont., to Lethbridge, Canada, be extended north to Edmonton, where it would connect with Northwest's route through Alaska to the Philippines.

► **U. S. Connections** — Thus, the northern route to the Orient would tap the U. S. directly and through connecting lines in the east at New York, the mid-west at Chicago, the Rocky Mountain area of Great Falls, and the Pacific Northwest at Seattle. Eastern terminals of Pan American's Central and South Pacific routes would be, as at present, San Francisco and Los Angeles.

Newmann and Kestens drew on the board's North Atlantic decision in recommending two-newer service across the Pacific. Pan American asked to fly by the North Pacific route from Seattle, and repeated its contention raised in other international cases against competition.

But, the examiners found that it is obvious that the board's findings with respect to competition in the North Atlantic case apply with equal force to the Pacific. Moreover, Pan American "will enjoy a predominant position" in both the Central and South Pacific areas if the board accepts their recommendations. In view of these and other considerations, and the report, selection of another carrier for the North Pacific route is advocated.

► **Remaining Applications** — With Pan American out of the North Pacific picture, there remained applications by Northwest, Pennsylvania-Central Airlines, and Transcontinental & Western Air (TWA), largest of the three carriers, to re-open a route from San Francisco to Northeast India via Seattle, Alaska and traffic producing areas in Japan, Korea and Manchuria, and China, or from Chicago to China via Canada, Alaska, Siberia and Manchuria.

That was part of TWA's round-the-world route application, of which other portions were considered in the North Atlantic case. TWA asked a two-pronged route linking Washington and Chicago with Calcutta and Shanghai via Alaska, Russia, China, Indo-China and Japan.

The advantage lies with Northwest, the board said, because of its wartime operating experience over a large part of the proposed route between the U. S., Alaska and the Aleutians, and the availability of well-qualified supervisory personnel familiar with the type of operation involved.

► **TWA's Route** — The report recognized TWA's prior experience in the North Atlantic, and the board pointed out that "in view of the authorization of TWA in the Atlantic regarding a longer expansion in that company's routes and personnel, it is not believed it should be curtailed across the Pacific as well."

TWA was said to have had no experience in long over-water flights and little in long-distance operations in cold climates.

On the segment by PCA and TWA that they can develop more traffic in the eastern U. S. than can Northwest, since they serve more ports there, the examiners expect most of the traffic originating east of the Mississippi River for Alaska and the Orient to come from New York and Illinois Northwest's only routes New York City and Chicago.

► **Plans** — There is no commercial air route across the North Pacific at present, and Pan American is the only carrier certified in the Central and South Pacific. It is authorized to fly from San Francisco to Hong Kong via Honolulu, Midway, Wake and Marcus Islands, and Tokyo, and U. N. Airlines, Inc., for lighter-than-air operation between Washington and Canton via Los Angeles, Honolulu, Singapore and Rangoon, India.

The examiners dismissed U. N. Airlines as a "paper corporation" without assets or liabilities, and found that Hawaian, a regional local operator with about 250 miles of routes in the Hawaiian Islands, is qualified in that respect but has no experience in long over-water flights and would be required to prove its proposed route. They proposed that both these applications be denied.

► **Alaska Pictures** — Because of the complexity of the case, Newmann and Kestens gave separate consideration to U. S.-Alaska proposals in which PAA, United Air Lines, Western, Alaska Airlines and Woolley Airlines asked new or additional service between the U. S. and Alaska, and Northwest PCA and TWA sought to serve the Territory in connection with their applications for routes to the Orient.

Only commercial air routes between the U. S. and Alaska now is flown by Pan American from Seattle to Bethel via Fairbanks and Nome.

Alaska Airlines asked to extend its Alaska system to the U. S. by two routes, one from Anchorage to

west, the examiners found, because of its wartime operating experience over a large part of the proposed route between the U. S., Alaska and the Aleutians, and the availability of well-qualified supervisory personnel familiar with the type of operation involved.

► **TWA's Route** — The report recognized TWA's prior experience in the North Atlantic, and the board pointed out that "in view of the authorization of TWA in the Atlantic regarding a longer expansion in that company's routes and personnel, it is not believed it should be curtailed across the Pacific as well."

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Pacific Case Recommendations

Recommendations by CAB Examiners Ross L. Newmann and Lawrence J. Kestens in the Pacific case were:

► **That a certificate be issued to Northwest Airlines for service over a period of seven years between the co-terminals of New York and Chicago, the intermediate points Anchorage, Juneau, and Ketchikan, and the terminal points Fairbanks and Anchorage.**

► **That Pan American's three certificates authorizing service between the co-terminals of New York and Chicago be consolidated into one certificate redesignating Juneau and Whitehorse as intermediate points between Anchorage and Fairbanks as terminal points.**

► **That Pan American be authorized to provide nonstop service between Anchorage and Whitehorse via Juneau, Ketchikan, and Wrangell.**

► **That Pan American's certificate be expanded so as to extend route No. 43 from Anchorage to the intermediate point Clugary, Canada, to the terminal point Whitehorse, Yukon, and Skagway, Alaska.**

► **That a certificate be issued to Alaska Airlines to extend its Alaska system to the Orient via Anchorage and Fairbanks as terminal points.**

► **That Northwest's certificate be expanded so as to extend route No. 43 from Anchorage to the intermediate point Clugary, Canada, to the terminal point Whitehorse, Yukon, and Skagway, Alaska.**

► **That the applications in all other respects be denied.**

Seattle via various intermediate points, the other from Anchorage and Fairbanks to Chicago, via points including Fairbanks, N. D., and Minneapolis. The examiners think it should have a route between Anchorage and Seattle via Juneau and Ketchikan, with a proviso that it shall not carry local traffic between Juneau and Ketchikan.

► **Five Certificates** — Pan American's service from Seattle to Nome and Bethel is operated under one separate certificate. The company asked that this be expanded to include Anchorage as an intermediate point between Juneau and Fairbanks, and consolidated with Juneau, Whitehorse and Fairbanks designated intermediate rather than terminal points.

The examiners suggested that PAA's three certificates for service between Seattle and Fairbanks be consolidated, leaving those as terminal and Juneau, and Whitehorse as intermediate points, and recommended that its certificate be amended to include Anchorage as an intermediate point between Juneau and Fairbanks, on condition that Anchorage-Fairbanks local traffic be carried only on flights starting or ending at Seattle.

Western asked to fly between Alaska and two U. S. terminals—Seattle and Great Falls, the latter route via Lethbridge, Canada, which if it now serves on AM 53. The examiners suggested instead that 53 be extended to Edmonton, the



Pacific Routes—Present and Proposed: Map of the areas involved in the Pacific case shows existing routes and those recommended by CAB examiners. Shaded corners are Northwest Airlines for the North Pacific route (dashed line); Pan American Airway for Central Pacific (dotted line); Pan American for the South Pacific (dash-dot line); Alaska Airlines between Seattle and Anchorage, and Western Air Lines from Lethbridge to Edmonton, for the U. S.-Alaska routes.



Swedish Air Board Officials Here: Pictured as they arrived at LaGuardia Field are Swedish aviation officials who are visiting the U. S. to study a route by SIA (Swedish Intercontinental Airlines) across the North Atlantic. Left to right are Gunnar Johnson, chief construction engineer of the Allseas airport at Stockholm; Carl Ljungberg, director general of Sweden's Royal Board of Aviation; Tage Jönsson, chief of the Royal Board's traffic division; and Tage Mjörn, SIA official.

where it would meet Northwest's proposed North Pacific route. The latter would also connect with Pan American and Alaska Airlines routes to the U. S. at Anchorage. **Woodley Request**—Woodley asked to operate between Anchorage and Seattle, while United requested a route to Fairbanks via Seattle and various Alaska points. At one of its arguments, United pointed out that it could give direct one-carrier service to 38 percent of U. S. populations, including West Coast cities with which Alaska has a principle commercial and industrial East.

But the examiners decided that the route should go to an Alaskan carrier, and suggested Alaska Airlines, largest air carrier in the Territory, as the one best able to originate traffic at Alaska points and distribute traffic from Seattle.

The board's final decision in the Pacific case, as in all involving overseas or foreign application, is subject to Presidential approval.

Fuel Jettison Valves

To Be Required Again

Fuel dump valves will be required again as planes used in scheduled transport operations when Civil Aeronautics Board's repeat of Special Civil Air Regulation 142 takes effect Sept. 30.

To aid in meeting a wartime transportation crisis, the board, on July 12, adopted the regulation permitting use until Feb. 1, 1946,

of aircraft not equipped with means for dumping fuel. The air force had asked the board to waive the dump valve requirement to allow them to acquire direct from the production line additional planes promised by the Army.

Need Retains—With equipment prospects becoming more favorable the board is discontinuing the regulation as no longer "required for the war effort."

Swedish Officials Here, Study Route

Swedish aviation officials have come to the U. S. to discuss arrangements for scheduled air service by Swedish Intercontinental Airlines (SIA) between Stockholm and New York via Canada or Newfoundland.

The route, on which survey flights are being made, would parallel that granted to American Export Airlines, by the Civil Aeronautics Board, to the Scandinavian countries and thence to London and Moscow.

Valders—Heading the group is Carl Ljungberg, director general of the Royal Board of Civil Aviation, SIA's Swedish counterpart, who is conferring with CAA, the State Department, and the Air Transport Command. With him are Capt. Tage Jönsson, chief of the Royal Board's traffic division, who will study communications and traffic control methods, and Gunnar Johnson, chief construction en-

gineer of the Allseas Airport at Stockholm, who is studying U. S. airport construction, particularly at Idlewild.

Direct Local Routes Favored Over Loop

Direct rather than circle or loop routes for local service air transportation and consideration of population as a major factor in providing air service to small communities were favored by Public Counsel in exemptions to a Civil Aeronautics Board examiner's report in the Rocky Mountain Area case.

First of the regional proceedings before the board for decision, the case may set a precedent for certification of local and feeder routes.

Reasons—In a brief supporting his exceptions to Examiner William J. Madden's report (AVIATION NEWS, June 4), Public Counsel Robert B. Hinckley said the examiner had reconsidered certain routes that were largely circular. This, he said, would result in high cost of developing traffic.

Public Counsel also mentioned that Madden considered distance as the "controlling factor" in his recommendations. Agreeing that this was an "important factor," Hinckley said, however, that population should receive the greater consideration.

Other exceptions—chiefly of a specific nature—have been taken by Frontier Airways, Braniff Airways, Mountain States Aviation, Ray Wilson, Inc., Nansen and Hansen Flying Service, United Air Lines, Colorado Airlines, Western Air Lines and Inland Air Lines, and Midwest Airways.

Proposed—Oral argument in the case has been postponed from Sept. 30 to Oct. 1.

Civil Version Domestic

A civil version of the de Havilland DH 89 Dominie, formerly used as a military transport and radio training ship, is being produced by de Havilland to answer demand for the ship from the British Dominions, Turkey, the Middle East and Ireland.

Some of the Dominies have been released by the RAF for operation on England's Jersey Airways, fueling again, for the first time since the Nazi invasion of the Channel Islands, between London, Jersey and Gouernsey.

Idlewild Leases Set Highest Airport Charges In Country

Airline executives believe better facilities, however, compensate for fees; 12 lines sign for period that, with renewals, may last 50 years.

By MARTIN V. MERRITT

An involved formula for determining rental based on activity, plus charges for leased space, control tower charges, and overall increases of \$35,890,000 federal aid is not obtained, according to a total cost to the airlines for each of New York's Idlewild Airport. It will be the highest in the country. Activity charges for landing fees are about 25 percent higher than those at LaGuardia Field, which now holds the record with Chicago for the highest fees in the country.

In a lease consisting of 70 pages and 15 drawings, a project which with renewals may last for 80 years has been undertaken by American Airlines, American Export Airlines, Eastern Air Lines, National Airlines, Northwest Airlines, Pan American Airways, Pennsylvania-Central Airlines, Trans-Canada Air Lines, Trans-continental and Western Air, United Air Lines, British Overseas

Airways Corp., and Swedish Intercontinental Airlines.

Tenant building space fees are higher than those for air service executives point out in the proposed \$12,000,000 structure. They will be higher for better facilities than are available at other large airports throughout the country. Space on the lobby floor costs \$5 a square foot, which is comparable with LaGuardia but higher than other airports. Ground space is \$300 an acre, about standard, and aerial rentals are somewhat lower than at other ports.

On the basis of anticipated traffic, Idlewild rentals will be low on a per passenger calculation.

Four Renewals—The leases provide an initial term of not more than 19 years, with four optional renewal periods of 16 years each, with a 30 per cent rental increase effective with each renewal.

The city will collect 10 per cent

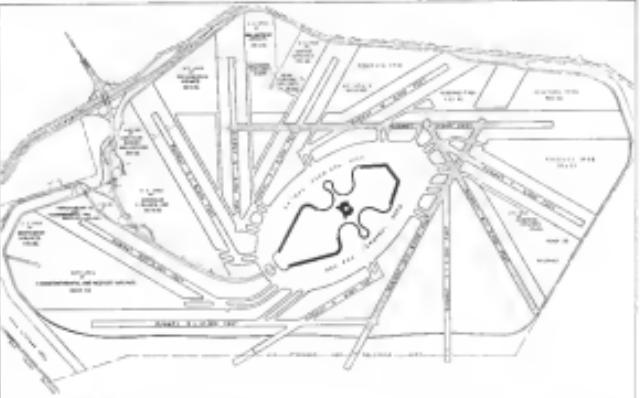
of the revenue from ground transportation of passengers or cargo to the airport, whether this be done by the airlines or a contractor, as is now the case at LaGuardia.

The activity rental scale sets a fee of \$300 per month for each of the airline's first three schedules, \$363.26 for each of the next four schedules, \$65.15 a month for each of the next five schedules, and \$343.16 per month for each additional schedule. A formula is provided to cover day, night, and night flights which are less frequent, as well as the use of aircraft with a gross weight in excess of 11,000 pounds. Extra sessions, courtesy flights, training, inspection and similar operations are exempt from this charge.

Charter flights by regular airlines incur a fee of \$4.54 plus an overweight charge.

The city waives in the leases any control over fares, rates and charges made by the airlines.

Ready In November—With the formalities of the leasing now done, a period of 18 months again is considered on the progress of the initial construction—the three runways which Mayor F. W. LaGuardia says will be completed and ready for use by November 13, and the temporary terminal building which will cost \$125,000. This is to be followed by completion



Plan of Idlewild Airport showing final stage and airline site areas. Shaded runways are original three.



PANAMA TO HAVE NEW AIRPORT

Construction of a new \$7,000,000 Panama National Airport, capable of handling post-war planes, is to start soon. Artist's drawing shows where entrance to administrative building, a two-story reinforced concrete structure 125'-6" long and containing 390,000 cu. ft. of floor space, being designed by F. M. McGraw & Co. of Pasadena. Note passenger ramp to upper deck and windows and doors protected with overhangs against tropical sun.

three years later of an intermediate stage which will provide six runways and, at a later date, by a final stage, one which will bring Airports to completion with 12 runways and a \$13,000,000 terminal building. Comptroller Joseph McGrath of New York City estimates that final cost will be close to \$30,000,000, although current plans provide \$19,766,000 for the field, improvements and terminal building, \$18,000,000 for the airdrome building which will house the actual arrival and departure facilities, and \$66,

000,000 for the hangars for the twelve airlines. With the latest addition, Airports will cover 4,853 acres. Anticipated traffic through the airport after its completion totals \$1,821,000 through and local passengers a year.

PICAO Schedules Technical Sessions

Navigation and transport committees to meet Oct. 2 and 3; reconstituting of council to follow by mid-month.

Work on the remaining wing of technical problems facing the International Council of the Private International Civil Aviation Organization (PICAO) at Montreal will begin early next month with the first meeting of the Air Navigation Committee, Oct. 2, to be followed the next day by an assembly of the Air Transport Committee.

Oct. 15 has been set for reconstituting of the council after adjournment of current meetings. **Action Unit**—A special committee established under the chairmanship of Dr. Edward P. Warner, Comptroller, to formulate a plan for settling these two vital committees in operation also has drawn up a schedule of initial meetings for the year ahead of these two sub-committees. The two groups will have the task of drawing up international standards on the subjects contained in the technical annexes outlined at the Chicago International conference.

Establishment of a constant working committee for the year was marked by the arrival of Dr. Albert Roper, newly-appointed secretary-general of PICAO. Formation of the annexes will now proceed as rapidly as possible in order

that a much-needed working organization may be effected by the time the council reconstitutes.

ICAN Link—Dr. Roper went to Montreal from the plenary session in London of the International Commission of Air Navigation (ICAN), of which he has been secretary-general for the past 23 years. He will combine the two posts, but said he expects ICAN's work would be discontinued gradually as the scope of PICAO is developed. Duplicate, all is to be avoided. Roper said that PICAO will absorb ICAN immediately, but this is in accordance of the coming into force of the Chicago convention.

The technical sub-committees whose schedule of initial meetings was adopted by the council were: airways systems and landing areas and ground aids, meteorological, rules of the air and air traffic control, communications, personnel training, airline operating practices, aeronautical maps and charts, and search and rescue and accident investigation. First meetings, unless postponed because of unforeseen difficulties, will be held between Oct. 2 and Nov. 24.

Airlines Allocated 21 Surplus Planes

The airlines recently released 19 C-45's and three C-46's from the sixteenth allocation of surplus transport planes. Total allocated here and abroad by the Surplus Property Board was 50 of the Douglas DC-3 type and four of the Lockheed Lodestar type.

The C-45's were allotted as follows: American and TWA, three each; Eastern, Northwest, United and Pan American, two each; Continental, Mid-Continent, Northeast, PAA and Western, one each. The C-46's: Chicago & Southern, Delta, and PCA, one each.

International—Two C-46's went to TATA Airlines of Bombay, India, and three to China National Airways Corp. The Chinese government will receive one C-46. The Lockheed's were allocated one each to Standard Oil & Gas Co., Firestone Tire & Rubber Co., Yankee Skyrails, and Aitken Airlines (Mexico).

The sixteenth allocation brought to 237 the total number of DC-3 type transports distributed by SPB. Of this number, 131 went to domestic applicants and 86 to foreign.

Radical Fuel Shift Predicted For High-Altitude Transports

West Coast conference of oil company engineers plans surjection requirement of high boiling polar "safety fuel" and fuel injection to make proposed upper-air flights economically sound.

High-altitude air transport operations will require radical shifts to the use of high boiling polar "safety fuel," and the adoption of fuel injection, in the opinion of leading West Coast oil engineers.

The Society of Automotive Engineers aviation section fuels and lubricants conference, just held in Los Angeles, gave new emphasis to the advantages of the new fuel and direct injection, reversed at length in Aviation News, Aug. 8.

Climb Loss—At the Los Angeles meeting, aircraft engineers were told that in the use of current aviation fuels, extremely volatile, as much as 25 percent of the fuel load of a large plane may "boil" away in the tanks in a single climb to 30,000 feet.

Reading a paper prepared by himself, F. G. Bello and A. L. Baen-

z, A. G. Cattaneo, research engineer of Shell Development Company of Shellville, Calif., said:

"We have calculated that may represent nearly 3,000 lbs. of

waste. That much in payload has been lost rarely to provide easy

starting and good manifold distribution during warm-up, takeoff and climb. Certainly that is not economical!"

Five Answers—Cattaneo said that the apparent solution of this coming problem of high-altitude air transport, when the conventional engine is used, lies in the use of safety-type fuels, an 80-100 degree boiling range, an individual fuel injection, a single cylinder to overcome starting and distribution difficulties in the use of the safety fuel.

Wright Aeronautical Corp.'s M. R. Rose and G. T. Ladd recom-



SKYMASTER COLLAPSIBLE LADDER:

This collapsible ladder, used in Douglas Skymaster (C-45) staff transports, was invented by a civil engineer at the San Diego naval base. Design was purchased by Douglas Aircraft Co. The lightweight metal ladder is stored beside the stairs when door (left) is folded. Base of the ladder and the electric motor operating it slide on short tracks within the ship to place it in unfolding position.



FIRST AIR VIEW, ALAMEDA:

First released aerial view of the Navy's huge multi-million dollar Alameda Air Station. Thousands of the Navy's fighting and transport aircraft have been serviced here before starting to Pacific fighting zones. At right are two piers at which carriers are moored. To left of pier is a seaplane lagoon flanked by hangars. Scores of planes are parked on runways in foreground. Rest of the installation includes ships, hangars, barracks and administration buildings.

manded serious consideration by airline operators of the advantages of water injection for aircraft engines from the standpoint of gains in engine cooling, ultimate performance and fuel economy.

"Now tell the conference," he was told, "that we are as fuel when used as an engine internal coolant at high power output. This is important because it represents a fuel cost saving of approximately 25 percent with an increase in fuel weight."

A possibility that many in the aircraft industry do not appreciate their own success was evident following the reading of a critical paper on aircraft lubrication by D. H. Moreton, process engineer of Douglas Aircraft Co.

"Generally speaking, the lubrication of aircraft is about the same stage of development as the greatest race in automobiles,"

despite the rapid advances during this war," Moreton concluded.

Auto Surprise—To Robert L. Johnson, SAE Southern California secretary, in charge of a large fleet of automobiles for the City of Los Angeles, Moreton's display of aircraft lubrication charts and graphs, and plain drawings of aircraft engines regarding lubrication, was eye-opening.

"It seems to me that the aircraft industry's lubrication charts are by far better than those used in auto fleet maintenance," Johnson observed.

World Radar Web Asked For Airlines

An international radar network system to cover frequencies from 280 to 225 megacycles is being recommended for international aviation by the Canadian Radio Technical Planning Board.

A proposal by a special committee studying aeronautical and marine radio aids to navigation, under the chairmanship of B. S. Stevens, superintendent of communications of Trans-Canada Airlines, Winnipeg, points out that this frequency band has been in use by allied aircraft during the war and should be continued in the post-war period.

High Role—As TAC will play an important part in peacetime British Empire aviation, with routes out of Canada to Europe, West Indies and South America, and Australia, the recommendations are important, states Mr. Stevens.

Commonwealth aviation, at least, is concerned.

Much of the radar equipment used by British aircraft and ground stations during the war was supplied by Canadian radio manufacturers and the government's Research Enterprises Ltd., Toronto. As the report points out, much of this equipment "will be released shortly and is directly applicable to commercial air transport needs and will provide a valuable aid during the interim period while other aids are being adapted for this field. It is expected that the need for these aids will extend over a period of approximately five years."

TCA already has experimental radar equipment in operation at its operating headquarters at Whitchurch for use on its commercial routes. The committee believes it should be possible to locate further sites, however, in recommending that the frequencies from 1940 to 1960 megacycles be reserved for radio-telephone use of air travellers on transoceanic who will want to talk to home and office while in flight.

TACA Opens New Costa Rica Route

Colombian company applies for six more Latinas.

Inauguration of a new non-stop international flight between Bogota, Colombia, and San Jose, Costa Rica, and between Bogota and San Jose, Mexico, has been announced by TACA de Colombia, Peruvian and the Costa Rican governments have been secured, survey flights have been made, and schedules will begin as soon as recently acquired aircraft can be ready for service, according to Hernandez Lopez, assistant manager of TACA de Colombia.

Mr. Lopez, now visiting in New York City, stated last week that TACA de Colombia has applied to the United States government for allocation of six more Lockheed Lodestars. The line is now operating 1 DC-3s, one 8-passenger Beechcraft, and 2 Lodestars. It is planned to use 4 Lodestars and the DC-3s for cargo, while the other planes will be used in passenger service.

Speaking of the expansion of aviation in Colombia, Mr. Lopez pointed out that there are now 27 large airports and 40 smaller landing facilities in that country.

Pusher Type DC-8 Revealed To Lines

Skyline version, seating 38 to 48 passengers, has engine-cutting propeller back of tail cone.

Airline heads and engineers are receiving blueprint copies of a Douglas Aircraft Co. brochure on the engine-cutting version of the DC-8. It comes with request for comment on such factors as increased passenger space, new power plant arrangements, and other departures from the original design.

The first Skyline was announced (AVIATION NEWS, July 10, 1944) as a 24-passenger plane, with gross takeoff weight of 17,200 lbs., flight range of 900 miles with cruising speed of 240 mph. at 5,600 ft., power plant of two 700-hp. engines, and selling price around \$40,000.

Price Jump—The new version will carry 38 to 48 passengers and have a selling price probably around \$625,000. Power arrangements contemplated would mount two Allison 171Ps under the floor. In the nose section of the ship the engine would be rear of the propeller gear box.

Propeller arrangement is one of the notable features of the ship. Counter-rotating, they are to go back to the tail cone and sit to the empennage. This version of the Skyline as a development of the military pusher bomber design first flown last year.

Cruising speed for the plane up to 275 mph are indicated, and some have estimated that it will be 20 to 25 percent more efficient than prior conventional airplane designs. Good mechanical performance of the powerplant to propeller connection is anticipated, with only 1 percent loss through gearing.

Stable—Another major advantage claimed is that in takeoff the plane will be stable and true if one engine quits, without yawing or trouble such as affects planes mounting outboard engines. Absence of cowling and other wing fairings will give anomaly clean characteristics and high performance characteristics.

One possible drawback, however, according to those who have seen the plane, is that the location of the propellers at the rear will put them out of the pilot's view and there may be some danger to ground personnel when the plane

is taxied and the tail swings in maneuvering.

Specifications reportedly call for a takeoff distance for the ship of 3,850 ft. at sea level, with total gross weight of 38,500 lbs.

Executive Opinion—The commercial design brochures have been mailed by the Douglas sales office at Santa Monica to engineers and presidents of 23 airlines. Douglas hopes to receive comments on such factors as increased passenger space, new power plant arrangements, and other departures from the original design.

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The company's president said that at present his firm will contract for furniture shipments at

his line believes it can haul for less than airline rates and show a profit, and explains that "in comparison with the airlines, we have almost no overhead. We own our own planes, and a large percentage of our personnel have a stock interest in the company."

"And, at present time, everyone in the outfit doubles as bruiser. The president says he is eat washing down airplanes in the morning and eat selling freight space in the afternoon."

"It is too early to announce any complete schedule of charges for our service, but we will contract with anyone to haul cargo airport-to-airport, however, Long Beach and New York, \$33 cents a pound, and if a customer can offer us \$3,000 a week, we can cut the price to \$28 to 35 cents a pound."

Front Carrier—For the east-bound fruit shipments, National Skysways contracted with Ralph E. Myer, Salinas, Calif., grower, who has been shipping in American Airlines' Convair Model 25 air freighter.

Ten thousand pounds of strawberries were flown out of Salinas in one plane, and a similar load of grapes left Myer's packers at Bakersfield for Atlanta. G. Prescott said the shipments were contracted at a rate of 18 cents per pound, and added that he believes this rate will be reduced to 20 cents on a volume basis in the next six to eight months.

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LARGEST AIRPORT ROLLER:

Probably the largest inspection roller ever built for airport construction, this 100 ton giant is being used in preparing new runways at the Santa Monica, Calif., airport. It is owned by Guernon Brothers, a contracting firm. Photographed beside it during inspection of the airport are (left to right) CAA engineer W. McGehee Howard, customs district airport engineer, South Region; T. P. Wright, Civil Aeronautics Administrator; R. A. Hook, regional administrator, South Region; A. S. Keoh, Assistant Civil Aeronautics Administrator; S. S. Boggs, senior airport engineer, South Region; and C. B. Worthley, airport lighting engineer, South Region.

British Zeal in Perspective

THIS WORLD-WIDE PUBLICITY given U. S. transport aircraft during the war has aroused harsh words in Great Britain, where national pride will not permit the thought that British aircraft can have serious competitors in quality and performance. The feeling gained from reading the British weekly, the *Aeroplane*, is that this country's predominance in airpower is due mainly to our native talents in mass production rather than to the quality of our products.

Probably no members of the British aircraft establishment are as busy in the first days of peace as its press agents. The immediate reparation of British civil aviation lies mainly in their hands.

But let there be no rash revisions in our evaluations of the two countries. America has far more new civil aircraft than the British have as yet been able to put into production. British manufacturers know they are at a disadvantage in competing with our industry. They are working hard to catch up on the years when development of transports was virtually impossible. They have not caught up yet. Outside of a few bomber conversions, some seaplanes, and some types being rushed to compete with already obsolete U. S. transports, they have little that is ready for sale to their own transport organization or abroad.

Thus the British industry finds it necessary to maintain a high level of optimism in its publicity. The release of the Society of British Aircraft Constructors, the industry trade group, and the notices in the British press generally, are crammed with ascriptions of splendid promise and performance.

Much of this is deserved praise for British designers and engineers. But a great part of the impressive display of specific performance data remains meaningless unless translated by experts and compared with other planes. And in some of the publicity, the dividing line between promise and performance is hard to find. Information as to whether a plane is on the drawing board, in mockup, in test, or in production is often vague.

ROSSER H. WOOD

A case of this sort occurred when the lifting of Ministry of Aircraft Production restrictions recently made possible release of much accumulated data, including material on the Blackburn B-20 flying boat. This was an ingenious experimental model whose retractable planing hull gave propellers clearance above water for take-off, but reduced the amount of profile surface in flight. The B-20 was hailed as an achievement of British talents and its photographs were well circulated. But little mention was made of the fact that it was built and flown in 1930, crashed, and left alone ever since.

It is foolish to underestimate British technical talents, or the aggressive world-wide sales efforts of the British government in cooperation with its industry, which our own State Department could well study. But at the same time there is no need to be alarmed by the sudden influx of publicity from the other side of the Atlantic, because the competition of British manufacturers will have much less effect here than the sharper rivalry of our own U. S. transport plane manufacturers.

Spurring All-Weather Flying

THIS ANNOUNCEMENT of United Air Lines by its president, W. A. Patterson, that it is ready to spend \$10,000,000 for purchase, development and adaptation of electronic and other technological aids used by the armed forces during the war is heartening. United's announcement has spurred the rest of the air transport industry, which has given little time or attention to radar and instrument landing arrangements on a national scale. The airline publicity spotlight has been pinned to guest airmen of the future whose economical efficiency will be no better than the DC-3 or the Ford tri-motor if weather keeps them on the ground, and financial losses from idle DC-3s and Constitution will be staggering. Industry meetings which accomplish something on all-weather operations are in order.

The New Type Rotating and Stator Seals

"Spring-life"

GYRO-SEALS



by **COOK**

Another reason why
engineers and designers

LOOK TO COOK

for new and improved
components for their
new and better products



GYRO SEALS OFFER MANY ENGINEERING ADVANTAGES

Gyro Seal construction is new in design and new in principle. The constant spring-rate, inherent in the "Spring-life" below, makes the use of auxiliary springs unnecessary when Gyro Seals are used. Common problems are readily overcome because "Spring-life" below can be made of all types of metals and the specific type of bellows is selected to suit conditions of each application.

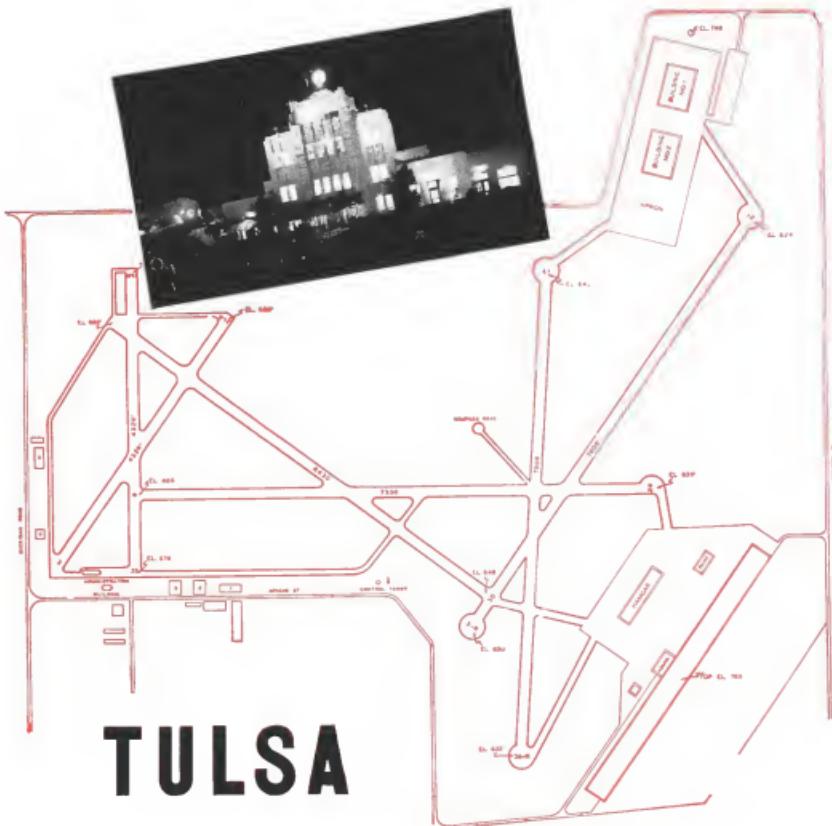
Gyro Seals will operate on both external and internal pressure and have been built to withstand 5,000 lbs. p.s.i. They will operate in a range of from slower than 1 R.P.M. to faster than 10,000 R.P.M. Lapped flanges of sealing members can be furnished to within one light wave of flatness.

Gyro Seals offer passing the most rigid laboratory tests, and after meeting more than the requirements expected of them in tests in the field, have truly become a worthy addition to the line of advanced "Spring-life" below products.

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Long noted for its outstanding service is the Tulsa Municipal Airport — a steadily profitable and growing operation since its inception in 1928. Although Tulsa clears more than 500 ships daily — military, commercial and incidental flights — facilities are so coordinated that the private flier's in-and-out time is cut to a minimum. Fueling and plane check-up are prompt. Weather reports and clearances are readily obtained. This is the kind of service that brings fliers back again and again.

At Tulsa, too — as at other progressive airports

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